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PROCEEDINGS

OF THE

SIXTH ANNUAL SESSION

OF THE

OHIO STATE EDUCATIONAL CONFERENCE

Keynote:
TRAINING FOR TEACHING

THURSDAY, FRIDAY, AND SATURDAY
APRIL 8, 9, AND 10, 1926

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OHIO STATE UNIVERSITY
COLUMBUS • OHIO

THE SEVENTH ANNUAL EDUCATIONAL CONFERENCE
OHIO STATE UNIVERSITY

April 7, 8, and 9, 1927

Keynote: Expertness in Teaching

GREETINGS

BELIEF in Education with us is fundamental, and so long as it endures we must likewise believe in the discussion of the educational process. Modesty is a marked characteristic of those most qualified to join in this discussion and to listen as it proceeds, and no one will arrogate to himself an innate sufficiency of conception of either its means or its end. The bartering of ideas and experiences is not the least part of this process.

In these Conferences the man of theory and the man of practice, the teacher grown old in the cause of education and the young educator glowing with the enthusiasm of his first experiences in a large social movement—all are levied upon for a contribution to the general advancement of the educational ideal. We find our educational theories and practices, the desirability and the efficiency of their results, the whole motif and *modus operandi*, in perpetual agitation; nothing seems fixed. We should rejoice that it is so, for that state is the surest evidence that education is *the* vital force in modern civilization. The educational process that is no longer questioned is dead. The social sciences are being classified, studied, and evaluated today with a new and intense ardor, and education as the social determinant is at last coming to receive the attention it deserves.

The school is the unit agency through which education must deliver its social force and the teacher is the life of the school; that the boy and girl of today may take their places in the social organization of tomorrow, they must be trained and trained well. So it is appropriate that emphasis be placed upon the training and equipment of the teacher; without doubt the great central force in the educational process is the teacher, who must be able by nature and training to visualize education as the prime factor in the social process, and the child as the social component.

Up to a recent time the teacher obtained his training while teaching, the pupils being his laboratory materials; but if this system produced some skilled teachers, it also doubtless resulted in thwarted hopes and stunted development to some pupils. Such a price for teacher training was too high, and, moreover, it did not always produce a good type of training. The College of Education has come in for this purpose and is accomplishing its function in an increasingly satisfactory way.

The State is committed to that plan, but much needs yet to be done to put behind "scientific teacher training" the intelligent direction and wide and contagious enthusiasm which that program needs and deserves.

The University has exceeding pleasure in welcoming the teachers of Ohio, and the College of Education takes keen delight in placing at their service all its facilities in equipment and teaching staff, to make the Sixth Annual Educational Conference fruitful in the contacts it renders possible, the relations it may establish, and the educational urge which may be its result.

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GENERAL SESSIONS

GENERAL SESSIONS

Thursday, April 8

EDUCATION AND CRIME IN EUROPE AND AMERICA

William C. Bagley
Columbia University

The prevalence of serious crime in the United States reflects a social situation to which educationists have so far given little attention. It is the purpose of the present paper to ask whether this social situation should not be regarded as a fundamental educational problem—a problem to be considered very seriously in the construction of programs and policies for the public schools. The wide prevalence of crime and the apparently steady and unchecked increase in the commission of major crimes have for a long time engaged the attention of such organizations as the American Bar Association. More recently, the governmental authorities, both state and local, have awakened to the critical character of the problem. Insofar as I can learn, however, the educational public, although keenly interested in reviewing and revising school curricula and methods of teaching and quite unanimous in the judgment that the schools should aim to meet the changing needs of society, has quite overlooked a social situation which seems almost beyond social control.

The facts regarding crime in our country have lately been set forth in so many books, press reports, and magazine articles that they need not be detailed here. In proportion to our population, we have a ratio of murders, assaults, robberies, and burglaries far in excess of any other nation for which comparable data are available. It is true that our statistics of crime in the country as a whole, are woefully meagre, but they are more than sufficient in scope and reliability, to establish for our country a most unenviable leadership in crime and in the production of criminals.

For the most serious of all crimes—murder—the facts are inescapably depressing. In the registration-area, which now includes thirty-seven states together with most of the larger cities in the remaining eleven states, the annual homicide-rate

according to the latest official report of the Census Bureau is not less than 84 in the million of population. For seventy-seven registration cities, the homicide-rate averaged for 1919, 1920, and 1921 was 94 in the million; in 1924 it had reached 99 in the million; in 1925 the ratio mounted to 111 in the million. Basing his computations on the last figure, Dr. F. L. Hoffman,[1] the leading statistical authority on death-rates in our country, has estimated the actual number of homicides as not fewer than 12,000 for the year 1925. This may be an overestimate (for the murder-rate in rural districts is somewhat lower than in the cities), but the total number could scarcely have been less than 9,000. Even if it were half that number it would still pass what Sir John Adams so aptly calls the "threshold of stun."

The critical significance of our homicide-rate is further revealed by certain related facts. In the first place, as the public press has repeatedly pointed out, no other country for which the facts are available, approaches our own in the frequency with which murders are committed. Closest to us among these countries stands Italy with 35 homicides in the million of population annually, a rate considerably less than half of ours. The remaining nations of Western Europe have much lower rates, England, between seven and eight in the million; Spain, between nine and ten; Scotland, four; Holland, a trifle over three; and Switzerland, less than two. Among our neighbors to the north, the murder-rates are only a minute fraction of our own, in both Ontario and Quebec about one twentieth. Even Australia and South Africa have fewer than one fifth as many murders as we have in proportion to the population.

In the second place, relatively few murderers in our country are apprehended, and even fewer are punished. It is reported that the total number of persons convicted of homicide and now confined in our state and Federal prisons was last year only 18,000. And yet during the two preceding years alone there were at least 18,000 homicides. Since so few murderers are in

[1] In the spring of each year Dr. Hoffman reports the homicide-rates for the preceding calendar year. These reports are based upon the data collected from state and local boards of health by the Bureau of the Census. Dr. Hoffman's reports appear in *The Spectator*, an insurance journal published in New York City. The data for 1925 will be found in the issue of this journal for April 1, 1926.

confinement and since relatively few have been executed, it is clear that the number of murderers now at large must run into the tens of thousands. Indeed, a recent authority estimates that no fewer than 180,000 persons now living in our midst bear the mark of Cain. This again may be an overestimate, but, if the actual number be only one half, or even one tenth of this, the situation is bad enough.

TABLE I. HOMICIDE-RATES IN 28 AMERICAN CITIES 1900–1925 (Ratio one homicide to one million population)

Year	*Rate*
1900	51
01	49
02	49
03	53
04	56
1905	66
06	77
07	86
08	79
09	73
1910	81
11	83
12	83
13	88
14	85
1915	86
16	91
17	91
18	84
19	91
1920	85
21	93
22	90
23	102
24	103
1925	110

In the third place, the homicide-rate, far from showing a tendency to decrease, is apparently mounting year by year. The rates for the country as a whole show a fairly steady increase, but this is due in part to the recent addition to the registration-area of states having high homicide-rates. On the other hand, some of the apparent increase is probably real. As between

1913 and 1921, for example, 18 states out of 32 showed increases in their homicide-rates, 13 states showed decreases, and one state of the 32 showed no change. As between 1916 and 1922, the murder-rate increased in 21 states (out of 34 in the registration-area), decreased in 12, and remained the same in one.

Probably more accurately symptomatic of the general situation are the tables that Dr. Hoffman publishes each year for 28 cities in which the data have been accurately recorded since 1900. These cities, which now contain about one sixth of the entire population of the United States, show a steadily rising murder-curve during the past quarter of a century. The rate in 1925 was not only higher than that for any preceding year, but also represented more than a one hundred percent increase over the rate for 1900.[2]

While statistical data regarding serious crimes other than murder are not numerous they are more than sufficient to warrant two conclusions: (1) that serious crime is vastly more prevalent in the United States than in any other comparable nation; and (2) that other serious crimes have probably been increasing during the past twenty years proportionally as the homicide-rate has increased. As long ago as 1915 a single American city had twice as many burglaries as all England and Wales. In 1922 New York and Chicago had nearly 3,900 robberies against a total of 95 for England and Wales.[3] Because of the increase in serious crimes against property, it is reported that in a single year (1924) the rates for insurance against loss from burglaries were advanced 50 percent. Within a month of the present writing, the indemnity companies announced further nation-wide advances in premium-rates ranging from 50 to 80 percent.[4]

Numerous theories have been set forth to explain the appalling and apparently increasing prevalence of crime in our country. Some of these are at most only partial explanations. Our high

[2]I am personally of the opinion that not all of this represents an actual increase in the murder-rate of the country as a whole. Many of these 28 cities have been receiving relatively large numbers of Negroes from non-registration areas in the South. But it is impossible to "whitewash" our national homicide-rate by this probability. Even if the Negroes are left entirely out of account, the situation is far worse than it should be.

[3]Figures cited in *The Police Journal* (official organ of the National Commission on Police Welfare), vol. xii, no. 1, Jan., 1925, p. 23. The relative infrequency of robbery in England and Wales is clearly shown in the official *Criminal Statistics for 1923*. H. M. Stationery Office, 1925. Table E.

[4]Reported in *The Sun* (New York City), March 31, 1926.

homicide-rate has been charged, for example, against the Negroes. It is true that the murder-rate among the southern Negroes is much higher than the rate for the country as a whole, but if the White rate alone is considered, the latter rate is still far higher than that of any other country for which facts are available.

TABLE II. THIRTY-FOUR REGISTRATION STATES RANKED ACCORDING TO THE INFREQUENCE OF HOMICIDES. AVERAGE RATES FOR 1919, 1920, 1921, PROPORTIONED TO THE MILLION OF POPULATION*

Rank	State	Rate	Rank	State	Rate
1	New Hampshire	17.0	18	Washington	61.0
2	Maine	17.3	19	Kansas	62.3
3	Wisconsin	19.0	20	Delaware	62.6
4	Vermont	20.0	21	Ohio	73.0
5	Massachusetts	25.0	22	Illinois	75.0
6	Rhode Island	27.3	23	Montana	77.0
7	Minnesota	27.6	24	North Carolina	79.0
8	Connecticut	39.0	25	Missouri	92.0
9	Nebraska	45.0	26	California	97.0
10	New Jersey	46.0	27	Colorado	105.0
11	New York	47.0	28	Kentucky	110.0
12	Michigan	48.0	29	Virginia	114.0
13	Utah	49.0	30	Tennessee	152.0
14	Indiana	52.0	31	South Carolina	153.0
15	Oregon	53.0	32	Louisiana	166.0
16	Pennsylvania	59.0	33	Mississippi	169.0
17	Maryland	60.0	34	Florida	209.0

COMPARABLE RATES FOR CERTAIN FOREIGN COUNTRIES

Switzerland	1.8	Norway	8.2
Holland	3.1	Ireland	9.2
Scotland	4.0	Spain	9.2
Ontario	5.3	New Zealand	9.3
Quebec	5.4	South Africa	17.9
England	7.6	Australia	18.8
		Italy	35.0

*W. C. Bagley. *Determinism in Education.* Baltimore, Warwick and York, 1925.

Furthermore, while the homicide-rate for the country as a whole has apparently increased within the past decade, the Negro rate has shown a gratifying tendency to decrease.[5]

[5]An article by Hugh Fullerton in *Liberty* for April 17, 1926, reports the results of a "poll" of newspaper-men in the several states regarding the alleged "crime wave." It is noteworthy that the reports from the South clearly suggest the probability that criminality is *decreasing* among the Negroes and *increasing* among the Whites.

Much clearer is the influence of immigration on our crime-curves. It is undeniable that certain elements in our immigrant population are far more prolific in crime than is the native-born white population. On the other hand, the case against the foreign-born is far from unequivocal. For example, the homicide-rate is considerably lower in the states with the heaviest ratios of immigrant population than in the country as a whole. Indeed, the six New England states, with Wisconsin, Minnesota, Nebraska, New York, and New Jersey (all with heavy immigrant ratios) are the eleven *best* states on this count!

The theory that attributes our crime-record to the World War is apparently untenable. The crime-curves were mounting long before 1917—or 1914 for that matter. I personally called attention to the educational problems involved in the increasing homicide-rates as long ago as 1910. If, as some people believe, the familiarity with firearms acquired by our soldiers during the war is a prime cause of the high homicide-rate, we should expect to find the situation even more serious in such countries as England, France, and Germany. As a matter of fact, while crime increased in most of the European countries immediately after the war, the increases were not at all comparable to ours, and, insofar as I can learn, the peak has already been passed and the crime-curves are falling.

Just as some trace our crime-record to the influence of war, others lay the blame on Prohibition. But again the fact is overlooked that the curves were mounting long before 1920. It is doubtless true that "bootlegging," "hijacking," and the consumption of bad liquor, are responsible for a substantial amount of recorded crime as well as for many serious crimes that are never reported. I have a suspicion, however, that, even if the Eighteenth Amendment had been defeated, we should still be facing a situation very much like that which now confronts us.

In short, the fundamental causes of the prevalence of serious crime in our country lie, I am sure, far deeper than any one of these theories suggests. Expressive of these fundamental causes are certain conditions which may justly be regarded as immediate causes. Four of these deserve especial emphasis.

The first is a legal system that might almost be said to protect the criminal rather than society. Only a small fraction of those who are brought to trial for serious crimes are convicted and sentenced. Many who are convicted receive no punishment proportionate to their crimes.

In the second place, the laxity and leniency of law-enforcement are compounded by a weak and flabby sentimentalism that colors a goodly segment of that important determinant of social conditions known as "public opinion." All too often the sympathy of the public is with the wrongdoer rather than with the victims of his wrongdoing. Various agencies have operated to intensify this sentimentalism. Some of these carry what passes for scientific authority. Among the students of the problem, one group is convinced that society itself is to blame for crime by permitting conditions to exist which turn normal men and women into criminals. Another group is just as clearly convinced that crime is a disease caused by inherited weaknesses. In spite of the inconsistency between these two theories, both have the same effect—both tempt the public to conclude that the criminal is not responsible for his acts.

In the third place, the unprecedented material prosperity of the past two decades has undoubtedly exerted in many ways a demoralizing influence. For example, the very fact that literally tens of thousands of people are financially able to pay "bootleg" prices for contraband liquor has been a fundamental handicap to the enforcement of prohibition. It is obvious, too, that the luxury which wealth permits and the apparent ease with which wealth may be acquired by methods that are within the law if not in all other respects commendable, give a plausible excuse to those who seek to get rich quickly by overstepping the legal bounds. Unfortunately this explanation of crime does not help to solve the problem. To brand material prosperity as an evil would get one nowhere—unless into a madhouse on the ground of lunacy or into jail on a charge of high treason. One must be circumspect when one refers to the cherished idols of a people.

A fourth factor in crime, a factor that is intensified by material prosperity, is reflected in the mobility of the population. In one

of the states, a recent study revealed the fact that the average family moves from one community to another at least once in every four or five years. One fourth of all of the families move from one community to another at least once every two or three years. The restraints and inhibitions that go with a settled abode are obviously likely to be broken down, and all too frequently are broken down, under such conditions.

If this analysis is fairly valid, it would seem to follow that causes so fundamental cannot be eradicated or counteracted by superficial measure. It is my contention that the most fundamental attack on the problem will inevitably be one that works through the forces of organized education. If universal education cannot do something to solve pressing social problems such as this, it can scarcely exert the fundamental influence which education likes to claim.

Before suggesting the steps that public education, in my judgment, might well take in meeting the serious social situation revealed by the crime-curves, I should like briefly to refer to certain relations between education and social conditions that, I believe, are discernible in Europe.

In the first place, it is incontestable that the degree of success with which the several nations of Europe have passed through the critical post-war years has been directly proportionate to the attention which these nations gave to mass education in the generation immediately preceding the war. Indeed, no nation that had, before the war, a reasonably efficient system of elementary schools has so far succumbed either to Bolshevism on the one hand or to the rule of a dictator on the other. It is important in this connection to emphasize the fact that *mass* education is the bulwark of democratic civilization, not the "education of *leaders*." Russia did not neglect the education of her leaders. Her pre-war universities were highly organized and highly efficient. Her secondary schools enrolled more pupils in 1913 than did the secondary schools of any other nation in the world except the United States. What Russia neglected was the education of the masses, and with 60 percent of illiteracy, even Russia's highly educated leaders failed to save her in her critical hour. Italy did

not neglect secondary and higher education. Just before the war she had a larger proportion of her population in secondary schools and universities than either England or France. But Italy had neglected mass education, and with 30 percent of illiteracy she found democratic institutions inadequate in a crisis. It was a despot, benevolent it may be, but none the less a despot, who saved Italy from the fate of Russia, but at the sacrifice of democracy and a constitutional government. Spain, Greece, and Poland tell essentially the same story. All are now in the hands of dictators and bid fair to remain there until the times are less troublous.

Quite another story, however, is told by the literate and enlightened nations of Northern and Central Europe. Here we find constitutional government preserved through a series of years that almost every day held a potential crisis, whether political, social, or economic; and constitutional government was preserved not only in victorious France and England, but also in defeated Germany and Austria. We may decry the narrowness and the rigid discipline of the German elementary school, but there is no shadow of a doubt that the *Volksschule* saved Germany and Austria in their hour of need.

I believe, however, that quite the most impressive tribute to the efficacy of mass education is found in yet another country. In my judgment, the most prosperous and the most promising nation in Europe today is Czechoslovakia. It is by no means an accident that this vigorous young republic has achieved so quickly a most distinguished position among the nations of the world. For three centuries, three of the four provinces that now constitute Czechoslovakia have been saturated with the traditions of Comenius. The Czech Minister of Education told me last fall that he had never known an illiterate adult in Bohemia, Moravia, or Silesia. It is small wonder that the most promising European nation of today is the only nation in the world that has made one of the first great apostles of universal education its chief national hero.

The apparently close relation between universal education and social stability, as revealed by the experience of the enlightened

nations of Europe during the critical post-war period, led me last year to investigate the more specific problem as to a possible bearing of universal education upon the relative freedom from crime which characterizes these enlightened European nations.

Here the facts, I believe, are just as convincing as are those that reveal the broader relationships. The four countries that I studied specifically, England, France, Germany, and Czechoslovakia, all show relatively low crime-rates. In all of these countries crime increased immediately following the war, but the so-called "crime-waves" seem in no case to have led to anything approaching the crime-ratios of our own country. Furthermore, insofar as I can learn,[6] the crest of the "crime-waves" in all of these countries has passed, and conditions are already approaching the norm.

In most of the current discussions of crime in the United States, the favorite contrast is with England and Wales. I should like to vary the procedure and dwell chiefly upon the situation in France. This country perhaps yields the most instructive contrasts: first, because its crime-rates are in general as low as those of England and Wales; second, because the crime-rates of France for practically all crimes have steadily decreased during the past twenty-five years; and third, because the correlation between education and the decreasing crime-rates is much more readily discernible in France than in any other country that I have studied.

Major crimes in France[7] have decreased steadily since the establishment of the Third Republic more than fifty years ago. Some of this decrease, however, has been due to changes in criminal-law procedure which have had the effect of throwing into

[6]The French situation will be referred to presently. The facts for England and Wales up to and including 1923 will be found in the official *Criminal Statistics*. H. M. Stationery Office, 1925, Table E, pp. 30–31. Also p. 10: ". . . . the remarkable increase in two or three classes of crimes against property has brought them into great prominence, but putting aside these cases, the opinion may be hazarded that crime in general has steadily diminished over a considerable term of years, and in addition the reduction is greatest in the more serious forms of law-breaking." (*See* also a convincing article. "The Decline of Crime in Britain," in *The Atlantic Monthly*, April, 1926.) In November, 1925, the Minister of Justice in Prague informed me (with permission to quote) that the post-war "crime wave" in Czechoslovakia was receding. I received unofficial information to the same effect in Germany.

[7]The data regarding crime in France was computed from the summary tables in the official *Annuaire statistique for 1924*. Paris, Imprimerie nationale, 1925, pp. 39 ff. The findings have been checked by reference to the latest available reports of the Ministry of Justice. The validity of the inferences has been discussed with an eminent criminologist of the University of Paris—M. Hugenet—who should not be held responsible, however, for my own educational interpretations of the data.

the category of minor crimes many cases that appeared earlier as major crimes. Minor crimes showed an increase in the eighties and nineties. Since 1900, however, there has been a striking decrease *in both major and minor crimes*, notwithstanding the slight increase following the war, and notwithstanding an abnormally large immigration from Italy and Russia which now apparently accounts for about 20 percent of the present criminality in France. The annual average of major crimes against property, for example, during the years from 1911 to 1922, was only one half of the annual average from 1891 to 1900. Major crimes against the person and against public order show for the same period a decrease of 10 percent. Serious sex-crimes also show a steady and, in the aggregate, a quite remarkable decrease. Homicides on the other hand remain constant, but the homicide-rate for France, while higher than that for England, is still very low in comparison with ours. I have, also, clear evidence that the proportion of illegitimate births to the total population has decreased substantially since 1900,[8] and that the percent of venereal diseases in the first-year conscripts has decreased.[9] Data like these may certainly be looked upon as very definite and unequivocal measures of progress. Can this progress be attributed in any way to the results of education?

An answer to this question will obviously be influenced by the facts—and the facts of an outstanding character are these:

1. Mass education in France dates from the establishment of the Third Republic; so that, in general, the decreasing crime-curves follow closely the development of the universal elementary school. Beyond the general relationship, there are two specific facts that merit attention.

2. The French schools during the past forty years have laid a very heavy emphasis upon direct moral and civic instruction. In 1882, France prohibited any form of religious instruction in the public schools. In 1887, an elaborate plan of systematic moral and civic instruction on a secular basis was inaugurated.

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[8]It is true, however, that the proportion of illegitimate to legitimate births has *not* decreased.

[9]The data regarding venereal diseases among the conscripts will be found in the volume, *Statistique medicale de l'armee de terre* for 1913, pp. 190 ff. (No medical report for the Army has been issued since 1913.)

In 1904, most of the elementary schools supported by the Church were suppressed. It is impossible, of course, to establish a causal connection between these policies and the decrease in crime; however, in view of the current proposal to introduce religious instruction in American schools as a counteragent to the "rising tide of crime," it is interesting to note the experience of France under the opposite policy. It is clear enough that crime can be reduced without teaching religion in public schools. Whether crime can be reduced without some form of direct and systematic ethical instruction I do not know. We are the only great country in which neither religious instruction nor systematic, secular, moral instruction is generally required in the schools. That we are also the only great country that exhibits mounting crime-curves may be in no way related to this fact.

3. Personally, I should be inclined to attribute a much more pervasive moral influence to the general tone and quality of education in European schools than to either religious or secular moral instruction. The seriousness with which school work is looked upon by pupils, teachers, and parents is remarkable in all of the European countries that I have visited. It is particularly characteristic of France and is coupled with standards of school work that I have not seen duplicated elsewhere. American observers frequently refer to these high standards as characteristic of the secondary schools, and then jump to the conclusion that such standards are made possible by the selective character of secondary education. But I am speaking of the elementary schools which have an unselected pupil-personnel, or, even worse than this, a pupil-personnel drawn exclusively from the middle and lower classes. I say without reservation that I have seen in one-room village schools of France a quality of performance so much higher than I have found in our best American schools that the contrast is almost overwhelming.

I am fairly well convinced that this exaction of standards of good workmanship and the willing meeting of such standards by the pupils have, what I may be pardoned for referring to, as a most salutary disciplinary effect. From my own observations I doubt very much whether so rigorous a regimen exerts the evil influences

that American educational theory is inclined to ascribe to it. When I see a nation in which joy in work and pride in fine workmanship are almost universal; when I see a people who, whatever their faults, can certainly not be accused of lacking initiative and creative ability; when I see a people who exemplify a passionate love of freedom tempered only by a deep respect for the rights and feelings of their fellows; and then when I note what their schools are doing, I can hardly escape the conclusion that there is such a thing as an educative discipline, and that its effect in the large is wholesome and beneficial. In the elementary schools of the other European countries that I visited, one finds similar conditions, but so far as my own observations are concerned, the French schools seemed to be doing the best work from this perhaps narrow point of view.

But I wonder whether, after all, the point of view is so narrow, and whether the standards of serious effort, good workmanship, and worthy performance, which such schools continually inculcate should not be ascribed a causal credit in producing population-groups capable of such stability as these enlightened nations have revealed under tremendous stress. Is it not possible that the seriousness of school life and the high standards of school work have had some influence in promoting the type of progress that is so clearly reflected in the low crime-ratios and the decreasing crime-curves?

Mussolini is said to have justified his dictatorship by the fact that someone had to teach his people discipline. But is not this precisely what the schools of the enlightened nations have done for their people? We may protest against assigning to the schools a disciplinary function. We may assail the suggestion with such verbal bombshells as "educational regimentation" and "indoctrination." We may array against it the serious charge that such a policy will perpetuate the *status quo*. Well, there seem to be at the present writing three options: (1) the kind of discipline that education can be made to engender; or (2) the kind of discipline that a Mussolini can enforce through bayonets and machine-guns; or (3) the communistic discipline of terrorism which has already cost Russia at the lowest official estima

nearly two million assassinations. The *status quo* of the enlightened and educationally-disciplined nations may have its shortcomings, but the other "statuses" now in sight scarcely appeal to me as better. And after all, if an educational policy makes progressively for longer life, for more joy in work, and for less crime and less disease, can it be charged with perpetuating a *status quo* even though in itself, as a policy, it may not be modified in a generation or more? It is conceivable that a relatively static educational policy which points toward ideals rather than merely toward norms or averages may operate to work a continuously progressive change in the general condition of society.

To come back now to our own country, one may well ask why, if the universal elementary education has been so positive a force with certain European peoples, it has failed with us—at any rate, in not counteracting such social conditions as are reflected in the crime-situation.

It must be conceded in the first place, I am sure, that the conditions making for the high crime-ratios and the apparently rising crime-curves in our country are extremely complex—much more so than in any other nation. In consequence, these conditions are extremely difficult for education to counteract. Such factors as rapidly increasing wealth and an unprecedented mobility in the population exert so powerful an influence that to counteract them fully by any corrective measures will be a herculean task.

Another fact must always be borne in mind when one contrasts American and European education; namely, the far better training of the European teachers and their relative permanence in the work. If our elementary schools have been inadequate to their task, one reason may certainly be found in the relatively untrained and transient character of our teaching-personnel. (Here, of course, we are considering the country as a whole.)

The fact should also be emphasized that the states which have the least crime and produce the fewest criminals in proportion to their population are, in general, the states that have had good schools.[10] There is no doubt that, in our country, the influence

[10]Cf. the comparison of the several st-t on "moral counts" set forth in the writer's *Determinism in Education.* Baltimore, Warwick an ork, 1925. ch. v.

of school education on basic morality and on respect for fundamental law has been positive, but it apparently has not been powerful enough to counterbalance the forces working in the opposite direction.

It is probable, too, that certain of these forces have been influencing education itself and tending in a subtle way to sap its strength and weaken its effects as a counteragent of decadent factors. The general tendency of American educational theory during the past twenty-five years has been to intensify rather than to diminish the conditions that have led to the present social situation. Practically every so-called "progressive" movement in American education has had the effect of loosening standards, softening the educational fibre, and discouraging systematic and sustained effort. It is my suggestion, in other words, that our schools, influenced by the same softening factors that have led to our attitude toward crime, have not been able to counteract as they might otherwise have done, the decadent tendencies which the marked increase in material prosperity and the increased mobility of the population have encouraged. The school itself has reflected the *Zeitgeist* all too faithfully to counteract the *Zeitgeist.* It is scarcely necessary to refer in detail to these softening tendencies. In higher education they found an early expression in the elective system, the debilitating effects of which have been recently discussed by President Glenn Frank. In the lower schools they are clearly seen in the bizarre applications of the doctrine of interest and the doctrine of freedom; in the growing unpopularity of the word "drill" and the virile meaning that this word signifies; in the wholesale and unjustified denial of the disciplinary functions of school subjects; and in the unwarranted assumption that a faithful and systematic mastery of knowledge in some mysterious way crushes one's initiative and hampers one's creative ability.

And as a correlative of all this, it may be mentioned that certain terms are today *taboo* in educational literature. One must not speak of discipline in the sense of correction; one must talk in terms of "social control." One is no longer just naughty; rather one has a "behavioristic complex." From being a virtue perhaps too greatly overvalued, "obedience" has become in

modern educational theory a positive and first-class vice. The child who rebels against doing anything for which he does not feel a distinct and immediate need would once have been punished for laziness or stubbornness. Today he is likely to be commended for his "independence" and his "self-assertion." I do not say that some of these tendencies were not at the outset a wholesome reaction against the recognized defects of a too formal type of school organization and a too rigid type of school control. I do contend that the wide extension of these tendencies in educational theory has not been without its influence upon educational practice, even though that influence may not be at all what was expected or desired. After all, ideals are dynamic forces. If the ideals of education lack strength and virility, it is almost futile to expect strength and virility in the succeeding generation.

I believe that there are many ways of counteracting through education the decadent tendencies in the social structure. In our present efforts to revise the curriculum, for example, we might consider the advisability of direct and systematic moral instruction. If this is not desirable,—and the attitude of our profession is doubtless decidedly against it,—we might at least include in our social-science courses, materials that will inform the pupils of the defects in our legal system and the other factors that make for the prevalence of crime. Perhaps the most effective thing would be to inject into education something that its theory and its practice sadly need, a little tincture of iron. I maintain that, taking the country as a whole, our standards of school work are far below what they could and should be. This is not only unfortunate from the point of view of the effect of loose standards on the collective *morale* of the coming generation; it is a distinct individual injustice to our boys and girls.

Freedom, of course, is a word with which to conjure. We all believe in freedom. Yet if there is one lesson that human history teaches it is that of freedom—whether freedom from personal thralldom, or freedom from dread, want, fear, fraud, and superstition,—has always been a conquest, never a gift. It is my belief that a type of education that makes for true freedom must reflect, for every individual and at every stage of his advancement, this element of struggle and conquest.

EDUCATION AND THE CHANGING WORLD

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It is a common thing at present to hear people raising questions in regard to education. The other day the distinguished editor of a great newspaper made the statement that we had gone clear beyond all reason and that we were educating far too many persons. When we enumerate the extent to which education is being developed in America, the figures are astounding. The United States Commissioner of Education recently stated that the most dominant vocation in America was that of a student —nearly thirty million of us Americans are in school.

Never in the history of the world has there been such an overwhelming proportion of the people setting aside time and money to the end that they may be subjected to something which we call schooling. These thirty million persons are engaged in every type of education. France has for a long while practiced what we call the pre-school education. Already in America we are beginning to experiment with the years earlier than six with the hope that we may be able to find profitable ways of using that time. The elementary and secondary schools, the colleges, the universities, the professional schools, the evening classes, the Y. M. C. A. schools, vocational courses, correspondence courses, and now radio courses, are to be recognized as parts of our system.

Thus we are pledged to education as no other people. And yet, how easy it is for us to forget that this type of enthusiasm for education is to be found elsewhere. Dr. Bagley clearly described a moment ago the situation in Europe, but he could go further. Even in the Orient we find a new state of affairs, a new enthusiasm, a new faith in education. A student of the history of education could have predicted a few years ago that this new impulse would be here, because we can go back to history and find that at every great crisis, at every great moment in society, there is a disposition to look to the next generation with a view toward preparing that group to solve the problems that have arisen.

It is no accident that everywhere throughout the world today we have a new impulse for education. It was true in France during the Napoleonic Era and it was true in Prussia following the Franco-Prussian War. It was true in the days of the Revolution. It was true in the days of the Renaissance and in the Middle Ages. It has indeed been true in every great period in the history of the world. Go back into the days of the Golden Age of Pericles, and you find the names that have come down to us are names of great teachers, are names of men who dreamed of a new day for their children. Go back into the days of Sparta, and you will find in her palmy days a disposition to organize the program of education in such a way as to give an opportunity for military precision, for inculcating the virtues of the warrior. Contrast that with the days of Socrates when they were discussing ideals and ideal social relationships, and when they were building up a great social philosophy. The days of the Reformation were primarily a time of great re-organization in religious thinking. But real mass education as we now know it started in those days because of a new conception of the importance and relationship of education to the problem at hand.

Come down into our own puritanical North America, and you find again that the education in those Colonial days was a type of education calculated to carry out the ideals of the people who came over here to find a new life. The old New England school was dedicated to the training, not in the three R's, but in reading, so that the religion of their forefathers might not perish, that men might be able to interpret the Scriptures, and that they might be able to live as citizens in the New Jerusalem. They had small use for arithmetic and the type of measurement which we now use. Indeed, the Colonial days were old before the introduction of these so-called practical subjects was recognized, because of the fact that these persons were thinking in other terms.

Thus we might look back at any period in the history of the land or at any period of the history of the world and find no more fascinating thing than that of comparing the conceptions of society at a particular period with their program of education. It is interesting to see how our curriculum has expanded from the

three R's of the early days of the last century to the now complicated program of education that touches every phase of human society and attempts to keep abreast of every change in human activity. It is a far cry from the three R's to our present complex city curriculum. It is a far cry from the report of the Committee of Ten thirty years ago to our present complex program of the secondary schools. It is a far cry from the old-fashioned small college of yesterday to the modern complex curriculum that is provided in the universities everywhere.

All this has come about in our own country in the most interesting way imaginable; it has come about more rapidly than it has ever done before because we in this country have been quick to respond to the changed situations that have arisen. Go back a little while and see the transformation of the Sunday schools for the workers over into the field of public elementary schools, and the academies for the few to the schools for the masses. Now we are witnessing the development of the colleges to the place where they also are used, for the masses. During the last twenty-five years the number of students in colleges has increased from about seventy thousand to nearly seven hundred thousand. The number is now increasing roughly at the rate of fifty thousand students a year. Never in the history of any people has such a problem been presented as that which we have of organizing our program and material of education and our system of instruction in such a way as to do this gigantic task which the public apparently trusts us to do.

Contrast the discussions of a few years ago. We have been successful in doing the things which we started out to do. Some of you men are old enough to recall the days of ten, fifteen, and twenty years ago when we talked whenever we met in a great educational conference about the problems of retardation and elimination. A few years ago we were greatly concerned lest the students would not go through school. Witness the fact that this year we have roughly four million students in the high schools. Contrast that with the situation just a few years ago. It was only a little more than fifty years ago in this country when the matter was debated seriously before the Supreme Court as to

whether we had a legal right to tax one man for the education of another man's son. Within this comparatively short half-century, we have witnessed the development of a great army of secondary schools numbering roughly four million persons.

When we commenced to talk a few years ago about the problem of elimination, one-thirtieth of the school population was in the high school. Today one-seventh of the students who are engaged in public education are registered in the high school. The most recent report of the Commissioner of Education shows that we have not only reduced retardation enormously, but 12 percent of the students in the American public schools are ahead of their grades and are accelerating one or more years. In other words, any student of education who will carefully analyze the forces that are operative at the present moment will be convinced of the fact that when the American schoolmaster has started to do a thing, he has been, in the main, successful.

Within a comparatively few years, we have succeeded in organizing this great program of education by convincing the public of its necessity and the importance of paying for it, to the end that we are now providing for the largest army of children that the world has ever schooled. When we have seen certain limitations such as that of elimination or retardation, we have been able to set the machinery at work, and we have made progress. As we have felt that our curriculum was too narrow, we have been able to convince the public of the importance of its being made broader and more comprehensive.

With such success, why should we be concerned? If our world would stay put, we could very quickly solve our problems. If we could get our world so organized that we could understand what to prepare for from generation to generation, nothing would be more simple. In looking back at those old Colonial schools when they were preparing primarily for life in a world beyond, it seems to me that they faced pretty simple tasks, because no one could see them and no one could test them to find out whether or not they had succeeded. But now our students are being turned out in a real world to face new problems all the time. Now questions are arising and they are being checked up constantly in a realistic world.

How rapidly this world is changing. The other day we were celebrating the fiftieth anniversary of the discovery of the telephone. With all of the changes in living that have come about in the development since that, that would seem to be enough.

So recently as 1896, thirty years ago this Spring, in the city of New York a prize of $10,000 was offered for the first man who would drive a horseless carriage up Broadway from the Battery to Grant's Tomb. A $10,000 prize for a man who would negotiate that distance of eleven or twelve miles! They didn't even have a name for the horseless carriage, and now there are sixteen or eighteen million automobiles in the land. Last month's reports showed that more motor cars had been sold in the last month than any other previous month in history. What does it mean? It means that we are having to adjust ourselves to these changed situations.

In 1909 in the city of New York a great newspaper offered a prize of $10,000 for the first person who would drive a heavier-than-air machine from the Statue of Liberty over Grant's Tomb and return. The Wright brothers from your neighboring city of Dayton took their mechanics and their machines and leased a vacant lot near Grant's Tomb. They erected a high board fence and painted it green, and there was an announcement on the outside that the trial flight would start from that particular spot. We watched the papers daily in order that we might see this wonderful thing. Finally the papers announced on a certain morning that that would be the day for the flight. A few of us, bolder than the rest, excused ourselves from the classes for the day and went to the side of the hill in order that we might be eye-witnesses to the wonderful event. We were there early. We stayed throughout the morning with our eyes elevated to the sky above that fence. We heard noises, but nothing happened in the morning. We were afraid to go home for lunch. Late in the afternoon the extra newspaper editions announced that the Wrights would not be able to make the flight at all; they failed to get that machine off the lot. And now in so short a time we have airplanes everywhere; we have ground rules prohibiting them from flying over athletic events. We have landing fields, and our boys are all either competent or expect to be competent drivers of airplanes, all since 1909.

Four years ago this spring a member of our faculty who is given to prophecy was host to a group of us one evening at dinner, after which he talked about the coming age. He said, "Gentlemen, you will live to see the time when it will not be necessary for you to send out men from the University to be heard. The time will come when electrical devices will make it possible for the transactions here on the campus to be heard all over the state. The time will come when people can listen to the classroom. The time will come when they can hear the cheering on the athletic field." Four years ago this spring we laughed and asked him how it felt to be the owner of such an imagination as that.

Within two years after that time broadcasting stations had been generally established, and radio instruction is now commonplace. Last summer, three years after that dinner, a degree was conferred by the University of Iowa upon a young lad who on account of illness had been forced to leave the University before completing his work. While the lad was confined to his bed, someone thought of getting him a radio receiving set. He finally finished his work which was given by the University with radio instruction, and the degree was conferred by radio upon this lad, who was living in Texas. And four years ago we laughed at the whole procedure!

What effect has all this had? Why, everybody has been affected. Who makes these automobiles? Who makes these airplanes? Who makes these radio devices? Who repairs them? Who works with them? Someone said the other day that one-fourth of the persons in America today are earning their living in ways that were unheard of twenty-five years ago. Was there ever such an adjustment necessary in the life of a great people? What has become of the old-fashioned blacksmith of a few years ago? He has either had to learn how to vulcanize rubber, to tease activity out of a magneto, to battle with the problems of static, or he is out of a job.

When you think of the adjustments that have been necessary within the past quarter of a century, you can agree with the statement made by the Secretary of Commerce the other day

when he said that America's industrial supremacy was due more to the wide-spread dissemination of information of technical character, of information that tended toward adaptability and flexibility, than any other one thing.

A couple of years ago while riding through the state of Ohio, I was entertained by a traveling man who told of a mysterious invention just around the corner. He said that in a little while it would be possible for one to have a motor car painted in a relatively short time, from a wide range of colors, with a precision that was then unknown, and that this would revolutionize all of that type of finishing. We laughed at him. Within these two years, all of us are familiar with the new process in painting cars, and only yesterday I noticed a statement to the effect that one of the great transcontinental lines was experimenting with this new process and proposing to abandon the older method. What becomes of the finisher, of the painter who has been skilled, who has been trusted to do this thing with a brush through weeks and even months, who is now to be replaced with a machine? This readjustment has been the rule in America within the past quarter of a century.

Isn't it a wonderful thing that we have had so few maladjustments? Isn't it a marvelous thing that there are so few persons in America who cannot adapt themselves to these changes? When we are challenging our system of public education, we should recognize at least that we have turned out a very adaptable individual, a person who is able to fit into a changing and shifting world.

Who of you would dare to predict the inventions of tomorrow? You are called upon to counsel lads as to the choice of a trade. Can you with any assurance advise a lad as to a trade that he might undertake? Changes in vocations will continue in the future as in the past. Who of you can guess the life that will be lived in 1950? Who of you can guess how persons will be making a living by 1950? A study of the things that are going on in the world today certainly will make the schoolmaster hunt for fundamental elements in the curriculum, for fundamental experiences in the school, rather than for the mere surface, ephemeral, or passing facts and suggestions

as to ways of becoming increasingly practical. We don't know how to make a practical school, because our practice is changing so fast that we are liable to fasten upon the child habits and standards that are ill-adapted to change.

It is no accident that educational leaders everywhere today are thinking once again in terms of fundamentals, discipline, and character, because those problems we continue to have. With all this change in invention and manufacturing have come new problems of congestion, new problems of relationships. What a simple thing it must have been for our forefathers to govern themselves. How simple it must have been for them to vote upon an issue, because their issues were concrete. There was a time when, here in Ohio, the problem of voting centered on whether or not the capital should be at Columbus or elsewhere. The issue was concrete. You could say, "I want it at Columbus" or "I want it elsewhere." You could understand what people were talking about. After the decision was made, you could check up to find out whether steps were taken immediately to see that the capital was placed here rather than elsewhere. How simple it was in the communities where you lived in the old days when people determined whether they would build a road, put up a bridge, construct a school building, and where they would do this and that and the other concrete thing. It was easy to arrive at a decision, easy to know whether or not you had been duped after a vote was taken.

Contrast that with the problems that are now arising. What are men talking to us about now? We are asked to vote our sentiments in regard to things that are large, that are vague, the influence of which we do not understand. How many of us are competent to pass judgment on the question of the righteousness or wisdom of the questions that are being debated, such as the League of Nations, the World Court, the Land Grant Banks, the Federal Reserve, foreign relations, or the tariff. These questions in their ramifications go farther than most of us are accustomed to think. Since they are so large, they are easily confused.

How easy it is for the enthusiast to paint a picture vague and beautiful for either side of the various questions that are arising

to plague us today. It is small wonder that legislative assemblies everywhere are introducing in the elementary, secondary, and collegiate institutions studies of civil government that have to do with the problems of our political life. But how futile these things will be if we as schoolmasters have a vague understanding ourselves and content outselves with mere formal statements. After all, the problems which we have to face are dependent more upon character and the qualities and attitudes of mind than many of us are willing to admit.

Note the adjustments necessary the moment a man moves from the country to the city. The other day I visited in the home of a farmer who has just moved into a village of a thousand. He is already chafing under the necessity of drawing the blinds, being unable to shout when he wishes, of controlling his children in new ways, and of adjusting himself to the fact that he has neighbors. The other day in the city of New York I noticed a statement to the effect that a new apartment house was being planned to accommodate eight thousand persons. What would that poor farmer do in that home? If he were invited to live in that apartment house, what would his problems be if he had a son who wished to learn to play a saxophone? Think of the adjustments of character necessary for that man to make before he would be able to live so as not even to be a nuisance to the rest of them, let alone being a help to them. These are problems that are fundamental.

So we are living in a world of change, over which we have relatively little control, in which people are living and making their living in new ways. Our task in working out a great program of education caring for thirty millions of persons is to be able to do our little part as these people pass on. Surely you will agree with me when I say that there never was a time in the history of education when it was so important that the schoolmaster be a student of childhood; yes, a student of social relationships; yes, a student of political relationships; yes, a student of all things as they change and shift, to the end that the schoolmaster may become a philosopher, a person who has judgment in regard to values.

Mr. Bagley a moment ago spoke of the seriousness with which the French people faced education. What a magnificent thing it will be in America when an increasingly large proportion of the seven hundred thousand persons who are engaged in teaching may take this task seriously, may face this task as we expect the surgeon to face the task when he finds the patient at the point of a crisis.

The general public believes in education. The students believe in education. And I firmly believe, based on the experience of the American schoolmaster with these other problems, that in the degree that we come to have clearer convictions about the importance of this task, in the degree that we have clearer conceptions about the relatively great values in this task, in that degree can we make a valuable contribution to this question of American education. And in that degree will these great conferences such as this represents become worth while.

GENERAL SESSION

Friday, April 9

YOUTH'S NEED OF BEAUTY

Claude Bragdon
Rochester, New York

Nearly all of the diseases which afflict the body are the result of *malnutrition*—the excess or lack of some element or ingredient by reason of which the balance of physical forces is disturbed. Our mental and emotional life, like our physical, is subject to starvation and poisoning, and our present state of disease in the world of thought and feeling is perhaps partly occasioned by the dearth of beauty everywhere. The soul of man, which craves beauty as its daily food, now finds itself stifling in a miasma of self-created ugliness arising from the ceaseless churning of mere dollars in fields, factories, and workshops, and in those urban temples for the transaction of sharp bargains whose doors are always open and whose windows are always alight.

We of the passing generation have grown accustomed to these conditions because they are of our own making, and though we suffer from them in obscure ways we cannot cure them because we are ourselves infected; the consciousness which produced those cancers on the countryside that we call cities, polluting the air, poisoning the streams, prostrating the trees, killing the grass, filling the ear with horrid noises and the eye with ugly sights, cannot reverse itself all at once. On those rare occasions when some desire for beauty faintly agitates the civic consciousness, that desire is capitalized by the political powers-that-be and the real-estate interests to the end of raising rents and taxes to pay for civic centers and sanitary suburbs less sordid, but scarcely less ugly than the old; the spirit of beauty is as remote from the one as from the other, leaving no footprint anywhere.

The reason for this dearth of beauty in our environment can lie nowhere, in the last analysis, but in ourselves, because the environment we make is simply the projection of our consciousness

upon materiality. The prime cause of our failure to create beauty is the poverty of our spiritual life; our failure, that is, to submit ourselves to those superpersonal, supernatural tides of thought and emotion without which no comprehensive and concerted art evolution is possible. We are a democracy without demos—warring individual entities, unalive to our relation and obligation to the life of *the whole* and therefore unsubmissive to collective, or superindividual action save when driven by the necessity of self-preservation.

Signs are not lacking that self-seeking individualism has reached its term; some new synthesis must be discovered and developed, based upon *the consciousness of the group*. We must learn to take our place in an organic whole and to work with others for its larger life. The fact that we have not been able to do this in the domain of civics makes our cities monstrous and ill-conditioned growths. In them the evils of individualism are written in giant characters against the sky, so that he who runs may read.

Now that which the elder generation is coming to realize rationally, the necessity for more highly organized cooperative and communal life, the younger generation, without any thought upon the subject, already feels as a biological necessity. Therefore its members try to organize their social life in their own way—sometimes in grotesque ways—rejecting much of the education, occupation, and entertainment offered them by their elders, often to the latter's bewilderment and chagrin. But theirs was the initial error; each elder generation has its own useful and necessary function with regard to the younger, but the one thing that age has no right to do is to cast youth in the same mould in which itself was cast.

I would call your attention to two things. First, youth's need for beauty is measured by the ardor and universality of its quest. The interest and activity of the younger generation are centered as never before in the studio, the stage, the atelier; all are trying to paint, model, sing, dance, act, write poetry, plays, or tales, so that the primrose path of art is fast becoming a highway tramped smooth by multitudes of youthful feet. Second, young people are eager to participate and willing to collaborate in any

enterprise which holds the promise of individual and collective creative expression, such as running a paper, organizing a club, forming an orchestra, or putting on a "show." Youth, guided by some sure instinct, is trying to find its own antidotes to ugliness, and to learn cooperation even where competition is the official order of the day. It is no wonder that parents and teachers view with alarm the wild and wanton straying of youthful feet in fields which were to them forbidden ground; but every generation contains within itself the seeds of its own salvation, and so long as youth goes forward confidently and gladly, "with hindward feather and with forward toe" it is probably going in the right direction, if not by the most direct route.

Just now young people appear to be going forward confidently and gladly toward a greater joy in life. If this sometimes assumes the aspect of too deep an immersion in sex, jazz, or bootlegger's gin, it may only mean that they have wandered but are still "hell-bent for heaven." In seeking, however blindly, love and joy and beauty, they are serving a nobler god than the god of bargains. This they obscurely know; it's the reason why coercion, criticism, starvation, and ridicule are powerless to divert them from their quest.

The youth of today seeks, as never before, an outlet for its imaginative life and shows a disposition toward collective activities. These needs are not met and ministered unto by the present educative system, wherein the schools are boxes of silkworms fed on professor-plucked mulberry leaves of learning, instead of beehives in a garden of live blooms from which each pupil extracts his own particular honey which feeds him and adds to the common store. *Individual self-expression and the cooperation between individuals and groups*—these must be integrated into one educational system, the first, for the release of the creative powers and for the discovery of latent gifts and talents, and the second, in order to create those conditions and develop those faculties which will prepare the pupil for life in a changing world, wherein the trend is away from competition and toward cooperation to such an extent that there is no greater handicap to success than inability to engage with others in common undertakings.

The complaint that one hears from fathers and mothers everywhere is that the boy won't go into the office or factory, and the girl won't stay in the home; the complaint of ministers is that the young people will not enter the churches, and of the teachers, that studies are merely the price to be paid for participation in the school's social life. But from theatrical managers and producers one hears a different story; they have to protect themselves against hordes of young people knocking at the stage door, seeking sanctuary in the theater from office, factory, church, school, and home. The theater has assumed the rôle of the Pied Piper, whose enchanting music lures all the children to follow him, even to the perilous river's brink. This is the more remarkable in that the commercial theater, as now constituted, has no use for these young people, nor—with rare exceptions—can they gain what they think they want from it. In schools and colleges we see the same interest reflected. Professor George Pierce Baker, head of the Department of the Drama of Yale University, has stated that in the American seats of learning, dramatics, in some form or other, is second only to athletics in popularity. This view is also confirmed by Mr. Frederick Keppel, of the Carnegie Foundation, who, returning from a nation-wide survey, reports that the increase in number and importance of Little Theater groups among college students is the outstanding change noted by him in the past ten years.

Here, surely, is a social phenomenon of the utmost significance and importance. Why all this intension of consciousness by youth upon the theater? The answer is youth's need of beauty. The theater, sad, silly, ugly as it often is, happens to be the clearest symbol that our modernity can show for the effervescing joy of life, the beauty and wonder of the world.

"Situation is such"—as a Russian friend of mine has a way of saying—the youth of today is either hostile or indifferent to a great deal that is offered him in the way of education; he characterizes it as "bunk" and as long as he maintains this attitude it is clear that he will get little profit from what he is made to learn. On the other hand, he is extraordinarily interested and alive in other things which form no integral part of the college curriculum.

One of these things is the theater. This he has brought to the college instead of the college having brought it to him; it has grown up like a weed in the college yard instead of being nourished along in the conservatory. In some cases the college tolerates its theater, in others it patronizes it; more rarely the theater is parented by *alma mater* but leads a rather starved existence nevertheless. In *all* cases, however, the theater has educational opportunities that are not developed and used fully—it is an ornament or appendage, rather than an organ of the organism, an integral and inexpugnable part of the school life.

Now the theater in its wider, deeper, nobler aspects is an unprepared though natural channel which would—because even in its present form it does—enlist the eager interest of youth and at the same time achieve educative ends. Nothing, potentially at least, contains and combines a larger segment of life; it is a microcosm, a world in little, in which many diverse things find free expression and at the same time harmonize into a greater whole—literature, history, science, archaeology, all of the major arts and many of the minor crafts. The theater, conceived of and developed along these lines, ideally meets the needs of the youth of today; it ministers to the sense of beauty, it brings out the individual while at the same time it subordinates him to the group by exacting the most complete cooperation. Indeed, nothing can be done in the theater without cooperation, for it is involved in the mere matter of the giving and the taking of a cue.

Modern education is concerned almost exclusively with the cultivation of the mind—or, worse still, with the stuffing of the mind—and affords little training of the will, the imagination, and the emotional nature. The theater affords ideal opportunities for training along all these lines if it is conceived of as something other than mere *acting*.

The only instance I know in which the educative opportunities afforded by the theater appear to have been realized and used, is in the school of Miss Edith King and Miss Dorothy Coit, wherein all the activities are centered about the preparation and representation of some chosen classic. This is only a small school for young children, but the idea is capable of almost infinite

expansion. The results achieved are in themselves remarkable and should receive attention by educators everywhere.

In the mind of one to whom ideas of this order are unfamiliar and therefore startling, these questions first naturally arise: Shall Melpomene dethrone Athena Parthenos, shall Harlequin's cloak supplant the cap and gown and the teacher become a mere master of revels? What becomes of that arduous discipline which is so rightly regarded as a part of the educational ideal? But the theater provides just this, with the advantage that it is willingly and even joyfully incurred. There is no limit to the drill and discipline which young people will undergo in order to acquire what they want to acquire, be it dancing the Charleston, playing the saxophone, or acting Hamlet—all of which are immensely arduous unless undertaken, so to speak, for the fun of the thing. So long as their love and interest are engaged, young people do not falter in the face of difficulty; it is the original lack of heat, or the subsequent lowering of temperature which is responsible for that lapse of attention, lassitude, loss of confidence, which are the forerunners of defeat. In the theater, better than in the classroom, the interest can be kept at the boiling point, because it is all such a delightful game. It is this *play spirit* which should be organized, capitalized, directed, and inspired to higher and higher flights.

To recapitulate: the youth of today is cynical and indifferent under a kind of education which fails to sufficiently meet its intellectual, emotional, and practical needs. This is due partly to *a shifting of interest* away from the scientific-utilitarian toward the aesthetic-mystical aspects of life, a need for more joy, more beauty, a more highly organized social life. Extra-scholastic activities such as the club, the school paper, the orchestra, the dramatic organization, have increasingly ministered to these needs, but lacking, as a rule, intelligent organization, skilled direction, and an official place at the administration table, they fail to fully subserve such educative purposes as may inhere in them.

Now education cannot be coercive; it cannot run counter to the subjective needs and desires of those to be educated. It is plain that the theater, on the one hand, attracts youth and, on the other, affords opportunities for its education. Therefore I

submit that the building, endowment, organization, and administration of the school or college theater; its adoption, adaptation, and extension to meet educative needs are matters which might well engage the attention of those individuals and boards which determine such affairs. Puritanism has too long blighted the theater with its taboo. We should remember the part the theater played as an educative force in India, China, Greece, and Elizabethan England. We should recognize it as again renascent in the hearts and minds of the youth of today. In that Temple of Beauty which they long to build, and which we should let them and help them build, this theater, rejected by our puritanical forefathers and their prototypes of the present day, may be made the headstone of the corner in very truth.

THE FREEDOM OF INQUIRY

H. N. MacCracken
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Man's ancestry may be disputed, but no one has ever denied that he shares with the simian world the trait of curiosity. He wants to know. Take away this desire, and the school ceases to exist. Teacher shares with pupil this eager thrust towards the fountain of knowledge. The teacher who has lost this justifying motive has ceased to teach. In the freest of all human intercourse, that of mother and child, it is the parent's interpretation of nature and life, her way of meeting the little one's need, that will determine the ways and wills of the expanding personality opening out towards knowledge like a flower to the sun.

Early in human history, however, man began to put bounds upon this propensity of curiosity. The power that came from the satisfaction of inquisitiveness was often perilously won. It was too precious to share. Man must outwit not only his own kind, but other living creatures, and especially the powers resident in stock and stone, spirits envious and hostile. So he hid his hard won treasures of learning within his own memory, recording just enough in fetish and symbol to revive his wayward fancy of things past. So ritual came to be, and mystic powers memorized in

idols. The learning process hitherto spontaneous, asking and giving without thought of result, became a discipline. To gain wisdom was not only the goal but the test of manhood. Initiation in the knowledge proper to a man was the last step into man's power.

Retention of the values inherent in the salvaged experience of the race became its most important function as a human group next to self-preservation, with which, indeed, it was indissolubly blended. Victories over other tribes were dependent on the magical knowledge of the tribe's own medicine man. The secret potentialities inherent in names, the spells that lay in incantations were the safety of the people even more than brawn and skill.

Possession of such privilege gave to the group possessing it importance, and a scale of values resulted, knowledge being doled out proportionate to one's status. Only the highest priest might enter the holy of holies. Aristotle's fabled counsel to Alexander, the wisest teacher to the most marvelous scholar, went in the Middle Ages by the title "Secreta Secretorum," mystery of mysteries. "In the hidden parts thou shalt make me to know wisdom" sang the psalmist to his God of Light. He felt, as we all do, a reinforcement of knowledge as secrecy from his own personality. Whence were dreams? What was their meaning? Why did unreality steal over one's spirit at times? What happened in ecstacy of contemplation brought on by fasting and isolation? Along with the knowledge gained by looking questioningly at the stars, knowledge so high that one could not attain to it, went the equal mystery, "Who am I? Whence? and Whither?" And this self-questioning and the knowledge that was culled from it, was to be guarded even more jealously than the internal experience. "Give every man thine ear, but few thy voice."

There has arisen, then, two great mysteries, the mystery by which the tribe or nation perpetuated itself in the favor of its deity, fostered and developed its youth, and increased its prestige abroad; and the mystery by which the thinker went off to his cave in the hillside, to his tower under the stars, and took counsel of himself. Inquiry as to the first principles of self-preservation had been satisfied. The mystery of fire and ice, and seed-time and harvest, flood and drought, quake and avalanche, windfall and

tempest; these were parcel of the experience of the people, their meaning known or guessed. The mystery of personality, the possession of soul, heart, mind, of something independent of the organism; this too had been surmised, along with its kinship with the divine, its immortality, long ages since. The great design of human society was traced out in Nineveh and Egypt, China, and the caves of Europe. All since then has been but filling in the pattern, and embroidering a little on it. Much has been added to the mechanism, but very little to the human portion of life, since history first took form.

A new field of inquiry had, however, been opened with the growth of peoples. Early tribal wisdom dealt mostly with obedience to father and mother and to the patriarch of the clan, with discretion and self-control in exercise of skills acquired in tribal pursuits. Questions began to arise out of the practice of such counsels. The author of Job questioned the wisdom of priests who promised rewards to virtue and penalty to vice. Patience and self-control were not inevitably rewarded. Piety was either not always pleasing, or God forgot. Koheleth, the author of Ecclesiastes, found life a bore. Nothing new came to pass, no satisfaction of man's divine curiosity was to be had on earth. And though later editors plastered the rough-hewn structure of these old askers of unanswered questions with pious verbiage, the gaunt, defiant eye of the thinker still flashed out of the older portions of the story. So sometimes the traveler stands before the questioning gaze of a Buddha in a Hindu shrine, a Rameses on desert sands, a saint in the portal of a ruined church, all asking the same stern query, "What meaning is in your life, O stranger of Today?"

Amos and Socrates went further than Koheleth and Job. They asked man what he considered right and just and good. They found current practices evil and spoke out. Socrates drank hemlock, and the prophet drank bitter solitude. The inquiry, however, persisted, and, strangely, there came to be a fairly common agreement upon the theory of justice and righteousness. Glory of the divine presence was the Hebrew ideal, "that glory may dwell in our land." Beauty, the glory of perfected humanity, was the Greek ideal, the beauty of perfect living. Justice and

peace, mercy and truth, were essential ingredients in both aims. They were to provide the atmosphere in which the free mind should continue its quest of God and the good, this occupation being conceived as the highest human happiness.

It is with society, ever, as it was with the Etruscans on the bridge Horatius defended. Those behind cry forward, and those in front cry back. The suppression of this free inquiry has always come about from the refusal of those with a measure of such freedom to share with those who have not.

The religion of Buddha went to pieces on the rock of iron-clad caste, which, originally based on the truth of fundamental diversities among races and individuals, gradually crushed whole nations into the narrowest bounds of activities and associations. The ethics of Confucius could not provide rulers of great provinces of intelligent and industrious people with strength of will to withstand the temptations of wealth and power, nor did it prove capable of growth with groups as they associated in ever-widening communications. The gospel of Jesus may one day be the rule of action for nation with nation, but it certainly is not so today. Christianity has gone to pieces in China, India, and Malaysia in the face of international selfishness which belies the religion. Christian leaders are making a brave effort to save Africa from the catastrophe, by introducing a Christianity which does not deprive the Negro of what religion he has and then leaves him a prey to white exploitation. This great new step in applied religion studies the black race as it is, the only race that has conquered the equator, and enters as assets all the arts and crafts it has attained, seeking through Christianity only to wipe off the terrors that deface the debit side of the racial ledger. The effort will be successful only if government can hold off commercialism long enough to get the experiment started. Though I am keenly interested in the plan which is endorsed by our American churches and fostered by Great Britain, I have my doubts about its ultimate success in the face of corporate greed.

For the essence of our problem today is, that the inquiring spirit is almost by definition a lonely figure, while the defenders of things as they are always stand organized. Those who forbid free studies always stalk their single prey. They seldom attack

a group. And religion, which in reality should mean freedom to the individual soul, the instant it organizes, restricts in some degree that very freedom.

We have arrived at a crisis in American history and in the history of democracy. Empires were unable to resist overgrowth and wantonness of power and wealth. Can republics succeed where empires have failed? No republic has hitherto lasted so long on so vast a scale as the United States of America. Is our American Constitution equal to its task? The very multitude of societies pledged to say that it is and to persecute those who even ask the question proves that the question has dynamite in it and must be answered by reason and not by force. I am not sure, myself. A friend of mine, a Swedish economist, well acquainted with our country, recently predicted a breakup into three parts, East, South, and West. That is not impossible, for in sentiment, in religion, in political preference, it has already occurred. And to the Swede, citizen of a nation which released freely another nation from its yoke and found itself the gainer by the existence of free Norway as neighbor, there is nothing shocking in the idea. To us, with the flood of a civil war as cement, there is treason in the very thought, but all the while, under the form of union, dissension seems to gain ground in the real life of the people. People out West talk about Wall Street with a bitterness they do not show even toward the Japanese, while the East treats the Western child, prohibition, with a contempt which it never exhibits toward international obligations. Is this "The more perfect Union" which the Constitution was written to form? Does it do any good to organize societies to arrest anyone who says it is not?

It is not less true of religion. There is no use forbidding debate on religion any more than on politics. There are questions that will not down. The other day, at a meeting in Orange, New Jersey, I was called a radical because I insisted on debating questions which the speaker said were undebatable, like right and wrong. I have the clipping here, which describes the meeting. After mentioning my name as a dangerous radical, the speaker was asked whether fair play did not require both sides

to be heard. "There is no use trying to be fair with a rattlesnake," was the reply. So it would appear from this defender of our land of liberty, that anyone who would debate right and wrong is a rattlesnake. In the name of history, what other subject has ever been debated since the invention of speech?

And so religion that refuses debate of right and wrong is doomed. When Jesus sat down and disputed with the doctors in the Temple, he was exercising the right that had made the Hebrew the most advanced religious thinker on earth. When Paul stood as a guest on Mars' Hill and debated the Unknown God with the Athenians, he was accorded a privilege that had made possible the philosophy which is our own richest heritage of two millenia of thought. It is an eternal debate. It will never be ended until we see God as He is.

It is not less futile to try to keep religion out of schools. It crops out everywhere. How came the fossil bone in Tennessee limestone? Will a geologist refuse to answer, though organized religion forbid? What started the Thirty Years' War? Will a history teacher pass the question by, because a church forbids the answer? Religion is very part and parcel of our national history, and only hypocrisy can bid us teach American history and can forbid mention of religion at the same time. My own neck of the woods is redolent of the religious wars. New Rochelle is south of us, Rhinebeck celebrates the faithful exiles of the Palatinate, and Quaker Ridge tells its own story. Amenia was the birthplace of American Methodism, and Freedom Plains is in the heart of my county. Is it not so of every county in this land? Put religion out of the window of the schoolroom, and in the front door comes sociology, of which religion is the fundamental factor.

Though the questions not to be asked are still being asked, none of us questions the power of the State and of the organized public to hinder inquiry. We may, and do, question the right and wrong of it; none of us questions the fact. The suppression of free inquiry not only threatens American education, it is growing daily, as a menace. And if the movement succeeds, there is an end of education.

For what is education, but that nourishment for a larger life drawn from the breast of experience? Forbid experience to enrich our lives, and a hideous cancer will develop, the cancer of hypocrisy. What a paradox, that in the midst of the greatest exploitation of natural energy ever released, the source of that energy, the mind, should be walled up! I will confine myself to my own state, for not only is New York what I know chiefly, but I deem it an impropriety to pass criticism on others where I am but a guest. I will speak only of the Lusk laws, recently passed and repealed in New York State, under which teachers could be tried and ousted for a mere expression of opinion. I will speak of the proscription, no less deadly in its intent than that of Rome, which by listing alleged radicals in expensive volumes was to blacklist them forever from public service and education. I will refer only to the innumerable acts of petty persecution which dog the footsteps of teachers today who speak out on any subject. The dismissal within the year of two professors of a New York State Normal College for radical opinions has still to be investigated.

It is the avowed object of those societies and individuals who seek to suppress free inquiry, to maintain existing institutions which they consider superior to any possible substitutes. Of the present active movements of espionage and suppression, two things are to be observed. The first is, that a democracy which stifles liberty of inquiry is a paradox of government. You cannot deny the first principle of your theory of the State and have anything left but the shell. I am reminded of a woman whom I once saw in a trolley bound for Coney Island. Her child kept climbing down from the seat, only to be more forcibly replaced by her determined maternal hand. Finally, it began to cry from the rough handling. The mother said, "Now look here, you wanted to have a good time, and you're having it, so set still!" You're living in a free country, so don't ask questions!

The second observation is, that restrictions on human freedom have in the past accompanied a decay rather than an advance in governmental efficiency. When ancient Rome restricted emigration, forbade artisans to abandon trades, outlawed strikes,

restricted civil service, to preserve Rome as it was, the Empire was already on the road to ruin. In the days of its vital energy, such limitations were superfluous. When Roman energy was Latinizing Gaul and Syria at the same time, private initiative was encouraged. When Roman energies dried up and barbarians vandalized Roman provinces, then oppressive edicts sought vainly to repair the damage. It was locking the barn door after the horse was stolen. It was prescribing for the effect and not the cause of the malady. And so today, when we so boastfully assert our racial superiority over the breeds to whom we give terms of contempt, we are all the while vaguely disturbed by the truth which will not down; that these inferior races have retained vital energies that we seem to be losing—energies of racial fertility, family integrity, group cooperation, feminine strength, physical hardihood and endurance, thrift and self-denial, caution and prudence, scrupulous honesty, and relentless determination. This very week I sat in a train beside an American farmer. A foreign woman in the car had lost her ticket, and the conductor threatened to stop the train and put her off. Then a man of her own race came forward from the rear of the car, and after a few words with her paid the five dollars of her lost ticket. My American farmer said to me, "See that? These Wops stick together. That's why they get on." And he added some bitter observations about Americans, which I will not repeat because I do not believe them to be yet true as generalizations. But when you hear hatred of the alien expressed because he lowers our standard of living, you may with reason doubt the sincerity of the speaker. It is not a lower standard of living, but a higher standard of physical vigor, that alien labor brings with it. Lower standards are American conditions, higher energies the effect of frugality at home. Let us be honest about this matter and admit that no part of our population is so eager to raise its standard, none so alert to get an education, as our foreign groups.

Now, though it is plain to see my own bias, you will have observed that I do not question the privilege of the majority in a democracy so to act. I do not even question the right of defense societies to use their endeavors to get teachers dismissed.

I think that a certain amount of persecution is not only inevitable, but actually salutary. It drives off the timid, clarifies the issues, binds more closely the lovers of free speech. But I do wish to raise the question of the predicament in which education is left; I ask the question of those who view with alarm the so-called Youth Movement.

I say to them, "Gentlemen, when you refuse to answer our questions, when you refuse to allow us to answer them, you place the seeker for truth in a dilemma." Either he must say to his pupils, "Study is futile, our way leads nowhere," or else he will say, "Go yourselves and ask your own questions." And that is just what youth is doing. Denied reasonable answers, forbidden the right of inquiry, the restless minds among our youth are seeking knowledge elsewhere. Where experience has no part in school life, it will be sought at the cross-roads by brave spirits. Meanwhile the cowardly, the indolent, and the self-indulgent develop their own philosophy of cynicism, which already pervades our national arts and is the keynote of our social intercourse. I would avoid rash generalization; I would never ascribe the conditions of a complex society to any one cause; but when as in New York papers last week two news items stand side by side: "Forty-seven million in American churches, a gain of eight hundred thousand in one year," opposite this: "Eighty percent of all crime committed by youths under twenty-two," I say the two items are not to be dissociated. Religion that forbids freedom of inquiry, and youth in search of adventure—no wonder they take different roads.

It is not merely that certain areas of inquiry are closed to seekers for truth in certain parts of our country. Great sections of society are growing up, having nothing to do with other sections that live around the corner. The scientists have realized this belatedly and are trying now to popularize the learning they have recently acquired. Unfortunately it is only half-digested by the scientists themselves, and many false inferences have been drawn which have done more harm than good. The idea of white, and particularly of Nordic, supremacy is a half-baked biscuit from the ill-kneaded dough of recent scientific siftings.

Much of what passes for mental healing is another biscuit from the same half-worked mass of hypotheses. The material ugliness of our daily existence in America is the effect of trying to live on these and other half-baked products of science. Even the real scientists, knowing how little they know, how exacting are the demands of true scientific inquiry, very seldom take pains to inform the public of the necessity of these precautions. Motion pictures advertise the missing link as about to be discovered by a museum's expedition to Mongolia. A daily paper features excavations of an archaeologist in Maya tombs in a way which demands a sensation for each day's work. Deep sea soundings are displayed to the public even before they are catalogued. The result cannot but be a superficializing of science, until it falls under the same contempt that follows unenforced law. Such publicity is mere play for the scientists; it is undertaken to raise interest and support for their undertakings, but it may in the end do more harm than good. Not scientific results, half-worked out, but the process of scientific thought, respect for scientific method, support of the fearless inquiry; these should be the aims of the contemporary publicity of science.

Another error into which scientists are apt to fall is that of trusting to endowments and private subsidies. In despair of stemming the popular distrust of intelligence, they take refuge in highly endowed hermitages, remote from public gaze. There they acquire inescapably that superiority complex which surrounds the withdrawal from life in all its aspects. Endowments and subsidies will not last forever, especially if they fall under popular suspicion. Already in Europe they are under public control of the State; they are likely to come under similar review here. In the present condition of State intelligence that would be a calamity; but unless the gap between the emotional multitude and the unemotional inquirer be bridged by mutual knowledge and trust, it is to be looked for in the comparatively near future. Already, here and there, institutions under public control have been put in a position hostile to private subsidy.

What is wrong then, for something must be wrong, with the scientific spirit? The fault cannot be all on one side. Is it not

that the scientific spirit is no less intolerant of real human freedom of inquiry than any other? Doctors would legislate against any other healing than medicine. Biologists would gladly take all the responsibility as to who should or should not have children. Physicists and chemists are natural friends of great commercial monopolies. We may say what we will, there is in science an inevitable aristocracy of feeling, according to which the reasonable man rules by divine right of heredity over the emotional man; and therefore science alone is not to be trusted with democracy.

It is interesting to the student of modern education to observe how some perception of this has permeated the student mind of today. The classics and the languages have survived tremendous assaults in our time. Science was going to oust Latin from the schools and colleges. What has become of that movement? This, that professional schools clamor for the man of classical training, while Greek and Latin archaeology have become filled with scientific spirit. No period is so interesting to modern civilization as the ancient one from which it sprang. As one studies the man of the ancient world, ignorant of all science save his little sum, but immeasurably great as man; and as the extent of his art and thought is revealed, science becomes the bitter bit and has embarrassing questions to answer. What good is it, if it does not make greater man?

Nowhere has freedom of inquiry meant more than in the field of biological experiment. We think of these investigators as so completely protected that we are apt to forget how slender at times is the majority that sustains the right of vivisection. Who would think that a Luther Burbank could be interrupted in his pursuit of new and thoroughly bred flowers? Yet within the memory of the fathers of men now living such inquiry was bitterly attacked on the most exalted grounds. So strong was the feeling against Bakewell, the English breeder of thoroughbred cattle for his practice of incest in breeding back to a dominant characteristic, that he was obliged to experiment in secrecy, and we are still ignorant of just what methods he used. They must have been very like Burbank's with flowers. Similar attacks, I have heard, drove Jacques Loeb to his practice of the most impenetrable secrecy in his experiments of generating life without procreation.

And if the object of denial of freedom in inquiry be to perpetuate faith in an established order, these men are the ones who would suffer. It is they who assume the right of Deity in creation. It is they who assume a purely mechanistic universe, and living in that assumption, prove their mastery of its inmost mechanism. Theirs is the modern Babel, the tower of scientific theory that assaults the very stars. And if the breach between science and old custom should continue to widen as it is widening today, it is conceivable that even our greed for new breeds of plants and animals could not long defend these presumptuous demigods. Such scientists would not long be withheld from experimentation on man; and there the struggle would come, precipitated by the blasphemy.

The scientist is not the only one to suffer from the movement; the artist suffers even more. Our country began with Puritanism as its ruling creed, a dogma that was scarcely more friendly to art than that of the fanatical Moslem. Mosaic, painting, sculpture, and the theater were profanities of the dignity of man who should be God's image. Even today the fine arts languish in school and college. They are called fads and frills, or worse. In coeducational institutions it is said they are known as sissy subjects, fit for women, but not for "he-men." The one great initiator of an experimental theater in an American university endured on a starvation budget for twenty years before the next wealthiest university in the country endowed him with a million dollars. Art in our colleges suffers also because of the academic way in which it is taught. The creative phase of it is denied credit towards the degree, while the purely historical and theoretical is approved. Puritanism still reigns in the emphasis upon art's moral aspects as the most important ones, though these are really incidental to the making and perceiving of beauty. Apart from the experimental schools, there is today little aid for art in education.

To a less degree the same is true in music. Laws against jazz are being demanded, just as men once threatened riots against Wagner. It is, by the way, surely no proud boast of our own country that we alone of belligerent nations took vengeance on

the defenceless art and artists of enemy lands. We suppressed the German language with a ruthlessness from which today, ten years after the war, it is only beginning to recover. France made no such blunder. The German summer school of language meets this year at Mt. Holyoke College for the first time since the war.

Other lands have their censors, but America is the land of the flourishing of the practice. We censor books, pictures, paintings, plays, sculpture, music, every form of art; and everywhere, in spite of the censorship, transgressors prosper. Two things are to be said of present conditions. The first is, that artists have only themselves to blame if the public thinks that art is inseparable from immorality. Vice has been flagrant in the arts most native to America, the movies and the dance hall. Hollywood, Broadway, and Miami have done their utmost to justify censorship, yet, though it be today inevitable, I believe it is fundamentally wrong in principle, on account of what it does to the artist and to the public. If religion and education take seriously their responsibility in the matter of art, there need be no censorship. Just as public health once universally practiced would do away forever with contagious disease, so art in the service of man's higher impulses would free him from prostituting it to his lower ones. Censorship puts a premium on law-breaking, makes forbidden fruit attractive, justifies the jeers of the unregenerate, and worst of all, in most cases does not really censor. It has, upon the whole, achieved only this one indubitable result, that the vast majority of American artists, writers, musicians are avowed enemies of the established order. Their art does not, like that of Greece of the fifth century, exalt the noblest ideals of the nation. Rather it defiantly pillories the worst of us and bids us shudder, but admire.

A study of freedom in musical thought would be a most enlightening help to our own discussion, if the technicalities did not involve us in too great obscurity. In this field, which is free for the most part, in spite of jazz, from moral implications, one may more justly discern what the movement of free inquiry has done. To each succeeding age the dissonances of the innovators have

been barbarisms not to be endured by the polite ear. The new instruments have been called reversions to savagery. Yet to the youth accustomed to the new dissonances there comes a habit of accommodation which perceives the essential melodies and harmonies beneath and beyond the dissonance. The result is an enrichment of life in terms of musical energies, enlargement of vocabulary, and a more active intellectual recreation. After the subtleties of Stravinsky, Chopin's sweetness "cloys too much with clinging melody." Musical liberals only continue that straining for creative satisfaction without which music would decay. You can only kill jazz by adding more delight, and a higher delight, to the pleasure which it seems to give to the whole nerve-racked world of today.

The restraints upon philosophy are no less profound. The philosopher who ventures to criticize the thought of Brigham Young or Mrs. Eddy has his writing suppressed by his publisher, who is terrified by the threats of the organized opponents. The philosopher who writes upon freedom of speech nearly loses his professorial chair. The admirer of Tolstoy is nearly tried for treason. If other philosophers are not arrested and are walking the streets today, it is only because the "unco' guid" do not know what they are talking about. Yet because restraint upon thought is most irksome of all, the philosophers are become our bravest contenders for freedom of inquiry. It is they who deserve the credit for founding the Association of University Professors, the organization that has done most for academic freedom in our country. It is they who have led the movement for intellectual tolerance as between nations. The commission on intellectual cooperation of the League of Nations was in its initial stages headed by the philosopher Bergson. The guiding spirits in our quest for intellectual freedom have been the solitary and gentle Thoreau, the kindly Emerson, and the friendly James. Our pacifism derives from them, our internationalism from Dewey and Santayana, our idealism from Royce. Did we but follow their noble lead, you would not listen to dull papers of this kind but would be out on the road of life working out the principles they have given us.

I have no heart to follow the trail farther. My catalogue of the suppression of free inquiry in government, in international relations, in local politics, in educational administration, would stretch until the crack o'doom. My wonder at its length is equalled only by my wonder at its ineffectiveness, save as a breeder of hypocrisy. Yet though it seem extensive in detail, I know that it represents only a fraction of the total sum of human energies in America. Most of us do not feel oppression. We are as free, or nearly as free, as the citizens of other lands, during most of our day. It is only the outposts of inquiry that suffer as compared with other nations, and it is because these are the very places we should protect, that I raise my protest here. Suppose Burbank uprooted every plant that showed unusual energies and characters! My plea to teachers and preachers alike must be, "Get back to first principles, seek first the kingdom of God, and intolerance will be unnecessary." Is that the vision of an idealist? Then take counsel of the realist, "Pass fewer laws, but enforce the ones you have, and free speech and free inquiry will no longer be a bugbear—Hyde Park, with Scotland Yard and a city magistrate nearby, furnishes its own corrective."

The history of toleration teaches the clearest of lessons. No progress ever came by suppression of free inquiry. The blood of its martyrs has been the seed of the New World. They are almost the only heroes worth reading about. When chemistry and physics, astronomy and hygiene, music and art, literature and ethics, are taught in our schools, let not the teacher confine the students' attention to the text alone, but let her show how such knowledge came into being, by what sacrifice, what courage, what high resolve. Honor to all who have secured to us teachers such measure of freedom as we now enjoy. Let us emulate them in our own time.

GENERAL SESSION

SATURDAY, APRIL 10

THE TRAGEDY OF ERRORS

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What is the meaning of an error in fact learning? Does a mistake made once in spelling a word like *busy* have anything to do with the later spelling of that word? When an error is corrected does it wholly disappear? Is a wrong answer the same as no answer? What is the classroom doing to increase the number of mistakes made by the learner? Can anything be done about it?

The senior high-school teacher frequently grows eloquent upon the errors of her pupils. "If the junior high-school teachers had held their children to a higher quality of work our pupils would not make such a mess of it." A group of mutually admiring junior high-school teachers mourn together on account of what their children had lost in the upper grades because "they did not have teachers who taught them habits of precision." The teachers of the fifth and sixth grades deplore the hopeless mental mess their pupils had inherited from their former teachers. "If the third- and fourth-grade teachers were to make their children do a few things well we could go on to teach them what we are supposed to teach them. But we must correct the errors which the children learned before they came to us." In tune with all the other critics speaks the third- and fourth-grade teachers: "Our schools need better primary teachers who will start the children right, who will have them ready to go on when they come to us."

The professor in college also has his say: "What can we expect of our students when they come from the public schools so poorly trained in the basic habits of precision? They do not know the A-B-C's of accuracy!" Perhaps the business man who, several years later, employs the product of the proud professor's teaching, has the last mournful, but very meaningful criticism. "A college graduate, what a tragedy! He cannot spell or add.

He cannot speak or write intelligibly. He cannot do the simplest task with accuracy. I never can be sure that he will make an errorless report." So goes the cry, every Adam blaming every Eve. Who deserves the blame? Can we place it anywhere? Perhaps not. Maybe the alleged shortcomings are to be found in the warp and woof of our whole educational fabric.

Let us look into some phenomena of making errors and repeating them. I have some pages which I wrote on a typewriter thirteen years ago. I am now making some of the same errors I made then. My boy now in the junior high school learned to spell *banana* as b-a-n-a-n-n-a in his second grade. The other day when he was off guard I asked him to spell *banana*, and he spelled it as his teacher had wrongly written it upon the board for him to learn five years ago.

After I had once tried to impress a class of normal-school girls with the seriousness of errors in fact learning, one girl spoke up: "I don't agree with you." (It was refreshing to find a student so free and honest after she had been taught for several years, as practically all are, never to express disagreement with a teacher!) "I have in mind," she said, "an instance when, during my sixth grade, I was corrected in the spelling of a word. That word I am sure I shall never again spell wrong." Next day this same girl volunteered the statement: "When I said yesterday I was sure of at least one word I would never spell wrong again I was incorrect. Today when an English paper was returned to me I observed a red circle about a word. It was the very word I had in mind. There it was, spelled as I had spelled it incorrectly in the sixth grade, g-r-a-m-m-e-r."

In a study by the speaker, entitled "The Persistence of Errors in Arithmetic" which appeared in the June, 1924, issue of the *Journal of Educational Research*, some data were presented on school children whose responses to the same number combinations were recorded for succeeding school days, during several weeks. For example, child E. L. of grade II-A, answered to 15 – 9, on successive school days:

6, 6, 5, 7, 5, 5, 7, 5, 5, 6, 6, 5, 5, 5, 5, 5, 6, 6, 5, 5. To 8 and 5 the responses were 13, 15, 13, 15, 13, 13, 13, 13, 13, 15, 15, 12, 15, 13, 13.

Every wrong answer not only had been corrected, but the child, while looking at the combination, repeated it after the observer correctly as "8 and 5 are 13."

Be it remembered that these children had been making these mistakes a long while—no one knows how long—before these records were taken. A large number of children from the fourth and fifth grades showed, in doing complex problems like multiplying a three-place number by a three-place number, not only errors but they gave exactly the same wrong answer on succeeding intervals of two weeks. One, in adding a column of five three-place numbers not only got it wrong, but gave exactly the same wrong answer after a year. From the data of that study it was concluded that: "A mistake is immeasurably serious. Once it is made, we are never sure it will not be made again in just that same way."

A wrong answer in number work is apparently just as definite as a right answer. In terms of habit process there is no difference between a wrong answer and a right one. Errors are not negative entities; they are just as positive as correct responses.

About a year later further data on the persistence of errors were presented by the speaker at the Education Section of the American Association for the Advancement of Science. There were studies in spelling, chemistry, reading, and music. My students have made similar studies in Latin, French, and geography. One graduate student, Miss Flora Scott, has published a study in algebra showing that of succeeding errors made, about two-thirds were recurring errors.

Yesterday before the Academy of Science I presented data showing how errors were greatly increased by putting the learner under an emotional strain, with speed pressure. Twenty-one children had been taught under careful guidance the sixty-five addition combinations up to and including ten, in such a way that they made no mistakes upon examination. In the written test eighteen of these children answered all of the sixty-five correctly and three omitted from three to five problems. Not one child

made an error. When thirteen of these same children reached grade III-B they were tested on the same combinations, and after the first oral test, were given the same test four times in succession, each time being urged to go a little faster. Every one of the thirteen children increased errors enormously, some giving wrong answers to nearly one-third of the combinations. The atmosphere under which they were urged to hurry was similar to the so-called best schoolroom atmosphere, except that the child did not have the usual classroom's threatening, waving hands about him as he answered.

We may conclude that one cause of the tragedy of errors is the *modern mania for speeding.* Go into any classroom, particularly in the elementary school, if you doubt that the average learner is under teriffic speed-pressure. There is a rather prevalent belief that speed-pressure in learning facts promotes efficiency in learning. Indeed, gifted writers dogmatically declare that speeding promotes accuracy. One eminent author whose book is the basis of a course in a large number of our teacher-training institutions says, in the book, for example, that when a child can add seven out of ten simple sums correctly his accuracy is good enough. Then he should be practiced in speeding. A number of authors seem impressed with the fact that in a number of studies speed and accuracy tend to go together. Even Thorndike seems to be delighted that Kirby was able by speed practices to increase greatly school children's rate of adding with no proportional loss in accuracy. For example, it was found that a child could be trained to add more problems in a given time with practically the same percent of his trials correct. It is just as accurate to say that the child within a given time can be taught to make more mistakes without any loss in speed. Literally our children are learning to make mistakes faster.

None of the available data proves that increasing speed increases accuracy. On the other hand studies have been made to indicate that emphasis upon accuracy promotes speed. An experimental investigation by Margaret Broom, Augusta Spett, and the speaker entitled "Speed versus Accuracy in Learning," published in *School and Society*, December 7, 1918, pretty clearly

shows that the way to develop speed in learning is to put the emphasis upon accuracy, especially in the early learning stages. In England three years later Sturt reported a similar study corroborating our findings. She found in typewriting, for example, that if the learner's attention was directed solely to speed, accuracy tended to diminish. On the other hand, if the attention was directed solely to accuracy, speed generally improved.

One of the strongest stimulants to speeding in the past several years has been the standard educational measurement which set up speed criteria. In spite of the splendid contribution of such measurements they have suggested to the average teacher and pupil some ill practices. Supervisors, naturally eager to have their schools make a good showing with other schools in speed records, have passed on their nervousness to their teachers. These teachers generally have been able to increase their children's rate of performance. The quality of performance has shrunken in importance. Undoubtedly measurable improvement has been attained without improvement in technique of teaching and learning. Often it merely means stepping on the gas, putting on more pressure, consuming more nervous energy of the teacher and her pupils. Because of the inordinate anxieties and emotional disturbances in some school systems incident to educational tests and measurements, it might be well in those systems, for the educational testers to have a leave of absence with pay so that they might go off to the mountains for a year, leaving the children and teacher alone to quiet down. Of course a few should stay on the job to administer tests for experimental purposes.

The modern mania for speeding is to be condemned on moral grounds. Not given time to pass critical judgment upon his answers before they are expressed, the pupil has a tendency to burst forth with the first association which comes to his mind. In oral work, if he breathes twice before answering a question, whether it calls for a mechanical fact or a reasoning process, woe unto him. If he pauses he may be told to hurry, or the teacher may betray her impatience by her nervous gestures. The thirty-nine other children with waving hands and shuffling feet reveal their readiness to rise as soon as they have the joy of seeing their

comrade fall. If under such conditions the pupil trying to answer musters up the courage to be honest and says, "I do not know," the chances are he is called a liar. "Of course you know. Think, Theodore, think." Either he has nothing to think about or the little that he had has slipped away. How is the child to think under such annoyances? He is not given time to think. The average classroom is about the last place for any child to think.

"I don't know" is a precious utterance by pupil or by teacher rarely ever heard in the schoolroom. The average high-school teacher tells her pupils to say something always in answer to a question. In consequence, we are teaching children to be bluffers, to guess and gamble, to be quick rather than accurate, to be hypocrites, to be intellectually dishonest. In a published study A. E. McNally found that three high-school boys out of ten said they would bluff an answer if asked for the date of the Norman Conquest when they did not know the date.

Perhaps the most serious ills from the insanity of speeding are those of hindrances to health and personality. What must be the respiration and heart-beat rate of the average child under the speed pressure of the modern classroom? With all the fears engendered there, all the anxieties, all the emotional discomforts, what physical harms there must be. How can we hope to develop strong, well-poised, happy, and lovable personalities under the emotional strain and tension, the anxiety and fears of the present-day school? Perhaps our insanity for speeding more and more means speeding for insanity. How many children are we grooming in the school for the insane asylum?

Let us ask ourselves how much we are building and how much we are destroying personality in the school. If we are interested in developing freedom, ease of expression, and self-confidence in children, if we wish to help the pupil to become more likeable, then we must question our insanity for speed. Needless to say that emotional disturbances contribute greatly to the tragedy of errors. Since speed pressure multiplies annoyances, speeding adds inevitably to the tendency to make mistakes. Making mistakes, moreover, adds to the child's discomfiture. So goes the vicious circle.

Another major source of the tragedy of errors is the excessive number of fact-units which the child must try to learn. In any school subject, accurate mastery is practically impossible. While the child is struggling to learn new units the old ones slip away. When the subject is passed by the pupil the facts involved are, as a rule, a "mental mess."

Out of this confusion we try to lead the child to think; but we are so encumbered helping him extricate himself from the mistakes which we and earlier teachers have helped him make, that he has little time even to attempt to reason. By and by we push the child into the next grade to attach more units, to multiply his errors, and to enlarge his mental mess. It is about time we quit fooling ourselves. In addition to our search for what will be socially serviceable, we should, in building up curricula, try to find out how much the child can learn effectually—an effort we have hardly manifested yet. We shall have to determine upon the smallest possible fact-units of each subject. Then we shall arrive at means by which the child can, with the fewest possible errors, master these units so that they will become a permanent part of his mental equipment.

We shall eventually come to the point where we shall set up hurdles of varying heights over which the child will have to jump before he can go on. Instead of exposing all children, say to one hundred words, and having some learn thirty, some fifty, and some ninety, we shall, as nearly as possible, determine how many words each child can master in a given time. Then he will not go on until he has mastered all of them. Within each subject there will be specific minimal units to be passed only with one hundred–percent accuracy. To attain to such a standard will call for considerable reduction in the fact-units which now confront the learner. Certainly it is better to master a few things than to mess with many.

What can the teacher do about it? She must cover or pretend to cover a prescribed amount of work. Her opportunity lies in a more effectual distribution of the minimal fact-units to be covered in a given time. Psychology of learning does not as yet offer her much specific aid. One principle, however, she can be pretty sure about. Learning is most economical if each unit is mastered before

a new one is added. In learning it pays to hold fast to what you have. As Thorndike has said there must be ample exercise of learning bonds if they are to live. The average teacher has a tendency to give the learner too large bites. He chokes. In arithmetic, for example, she is likely to expose the child to a hundred simple addition combinations within a period of a few weeks or months. Then that child must spend the next few years trying to correct the errors he developed during this short time. Instead, she should add a few combinations each day, giving ample exercise in the most effectual manner on those learned. After several months, this child will have learned much more than he would if a larger number had been added.

Then there is the notion abroad that the teacher should never tell the learner anything. She should draw facts out of him. Accordingly she is compelled to ask for facts which she knows the child does not have. Much of the modern recitation consists in asking questions so that children can make mistakes, so that the teacher can correct them. Of what value is this? Is it not usually a loss? The child's learning morale is lowered. His wrong associations are more firmly fixed and his comrades hear his wrong responses.

How much damage is a verbal error in class to the other children of that class? How many pupils shall be asked a question before the facts are given? A certain fifth-grade class was reading one day from *Robinson Crusoe*. The teacher asked for the meaning of *surgeon*. A wild guess was volunteered by a child. A second child answered as far afield. The third eager child gave his bad guess. So within seven minutes thirteen children had gambled on an answer and had lost. The fourteenth child approached a correct reply. The teacher who had been told never to repeat an answer merely said "That is about correct." After several minutes I asked the children to hand in signed slips of paper on which they had finished this sentence: "A surgeon is ———." Three children, including the one who had succeeded verbally, approximated a good answer. The thirty-eight other children, all answering, distributed their replies pretty evenly among the wrong ones which they had heard their thirteen comrades give. Seven minutes lost? Worse than lost!

How long should a teacher fish when the fishing is poor? Shall she continue to fool herself that the fish are biting? Often in despair she jumps into the water, seizes the fish with her skillful hands, fastens it on her hook, climbs to the bank, and jerks out that fish on her line. So she subtly tells the child but tries to fool herself that he is giving her the facts, that she has drawn the knowledge out of him.

Not only verbal errors become socialized in that modern teaching which is usually considered best, but visual errors are also lavished on the learner by his comrades. The blackboard as generally used becomes a powerful source of the tragedy of errors in classroom learning.

Long before the child has mastered the new unit which he must attack he may be called to the board to try a problem. After he fails, while all his comrades look and listen, another pupil takes his place, to fail also perhaps. He is corrected, but for him and those looking on great damage had been done. After several individuals are thus set to work at the board before their classmates, the entire class go to the board. Then one by one each pupil has his errors pointed out to him and his comrades. Some day, as far as possible, only accurate work will appear on the blackboard.

We read and hear much about motivation. We are eager to stimulate the child to greater effort, to lead him happily to do his best. One very forceful factor we have pretty generally ignored, namely the urge that comes from success. Thrills from success hardly have a peer for goading one on to more vigorous efforts. How rarely such thrills can come to the average learner. He makes so many errors, he is so overwhelmed by his mistakes; he is so often stopped by confusions that genuine thrills from having definitely achieved and mastered seldom come even to the bright child. The lower quarter of the class are so often confronted with tasks which they know they cannot do, with an array of facts which they know they cannot master, that the wonder is they ever can keep up enough courage to go on. The chances are that the learning efficiency of the average pupil could be enormously increased if he could enjoy more of the awareness of success.

Anything we can do to mollify the tragedy of errors will add to human happiness. The happiness will engender greater industry and self-sacrifice and these in turn will guarantee greater mastery and fewer errors. The prevailing grading system puts a premium upon habits of inaccuracy. A wrong answer is considered the same as no answer. The child, for example, who tries five number combinations like $8 + 7$ and adds only four correctly is graded the same as the child who tries only four and adds those four right. A few teachers, indeed, give the first child a bonus because he "tried." Tennyson may have been correct when he said, "Tis better to have loved and lost than never to have loved at all." Nevertheless, Tennyson offered no statistics. Certainly his rule will not work in learning number facts or in spelling. 'Tis not better to have added a combination and added it wrong than never to have added it at all. The child who upon first meeting $4 + 7$ thinks 12 is, all else equal, far worse off than if he had merely not answered, or said, "I do not know." It will cost him at least one association of "$4 + 7 = 11$" to negate the bond, "$4 + 7 = 12$." We don't break a bond or specific learning habit; we let it die from disuse. We set a stronger one in its place. All else equal, any wrong answer of fact means a loss of at least two learning units—the wrong answer and the correct one needed to negate this wrong one. When a child thinks and gives a wrong answer in fact-matter he must have at least a right answer, all else equal, to put him as far as if he had not thought or attempted any answer.

In fact materials, therefore, we should evaluate each error, not as no answer but as twice as bad as no answer. Let the learner lose the value of two units for each unit answered wrong. Right minus wrong, or the total possible score less twice the relative value of each unit answered wrong, is the rule suggested. The child, therefore, who correctly spells four words out of five and only tries four is graded 80. The child who tries five and spells only four is graded only 60. The child so graded will learn inevitably to leave a blank for written facts about which he is not sure. "I don't know" he will say in oral work when that is a fact. Such a scheme will promote intellectual honesty and, by furthering habits of accuracy, will help mollify the tragedy of errors.

A CASE OF DUAL PERSONALITY AND ITS SIGNIFICANCE FOR EDUCATION

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Perhaps nothing that Robert Louis Stevenson ever wrote has attracted more attention or has been more widely read than his story of *Dr. Jekyll and Mr. Hyde.* To most people, however, the story is pure fiction, highly entertaining indeed, and having some value because of the moral lessons that can be drawn from it by analogy. The person who says he has seen such a case in real life must bear a high reputation for veracity or be able to present remarkable proof. And yet the Jekyll-Hyde story is perfectly true except for certain minor details which the fiction writer is allowed to introduce to complete his story. For instance, no known drug will produce the transition from one personality to the other. But some twenty-five cases are on record of persons who have fallen asleep and wakened in a condition which is most naturally described as that of a secondary personality, remaining in this condition for a longer or shorter time. The fact that only about twenty-five cases have been recorded shows that it is sufficiently rare and unusual to be highly interesting aside from the manifestations of the personalities themselves.

In September, 1921, there came under my care a young woman nineteen years of age whom we will call Norma. She was a delicate, pleasing young woman of excellent intelligence, weighing at that time one hundred and two pounds, well proportioned, apparently in good health, well mannered and in every way attractive. She was considerably fatigued from a long automobile ride and soon fell asleep. As I entered the room the next morning she exclaimed, "There is Sarah." When I asked her name she said it was "Polly"; when asked how old she was she said, "Four years," and her behavior corroborated it at every point. She could neither read nor write, she did not know the colors, she talked baby talk, was active and outspoken, crude, impatient, wilful, slangy, and even profane. After about an hour she suddenly dropped as though dead or in a faint; however her pulse and breathing remained normal, and she slept quietly. In a

few minutes she was restless, evidently dreaming, and started to get out of bed, still asleep. When held and pushed back in bed she struggled violently, requiring two people to hold her. This violent struggling lasted for two or three minutes, then again she collapsed and lay as one sound asleep. After a few minutes she awoke, rubbed her eyes, looked around and said politely, "How do you do?" She was Norma again. When I entered the room this time the nurse asked her if she knew me, and she replied as any stranger would, "No, I have never met him." Being introduced to me she replied pleasantly, "I am pleased to meet you." Talked with me quietly and rationally, told me something of her history but had absolutely no memory of anything that occurred while she was Polly. After a time she again fell asleep, and after going through a procedure similar to the former one, awoke as Polly. Immediately called me "Sarah" again, and carried on the old conversation just where she had left it before as Polly. During that first day she changed from one personality to the other, eleven times. The next day she was normal for most of the time until about four o'clock in the afternoon; then I suggested that she should take a walk in the hall. She replied that she would like to do so, but the next minute she fell over sound asleep. She awoke and was Polly for six days, sleeping at intervals throughout each day but each time awaking again as Polly. At the end of six days she awoke as Norma again. She had no recollection of anything that had happened during this period and when asked what we were talking about when she fell asleep, she said, "We were just going to take a walk." When told that that was six days ago she said, "Oh, have I been Polly all this time?" She knew that there was a Polly or that she had these spells, but she had no consciousness of what they were like. Polly did not know anything about the other personality, and when asked if she knew Norma she said yes, she knew of her; asked who Norma was, she said it was a friend of hers who was coming to see her. For the next three weeks she was Polly most of the time, being normal only at short intervals. Then a change came and she awoke one morning as Norma, and from that time was generally Norma with occasional lapses to the Polly condition.

The contrast of the two personalities was most marked. Norma, although rather immature for a young woman of her age—appearing more like a girl of sixteen or seventeen than nineteen—was nevertheless attractive and modest—almost diffident, very neat, of excellent intelligence, tested about sixteen on the scale, and had nearly finished the first grade of high school when she was compelled to leave on account of ill health. She was generous almost to a fault, unselfish, devoted to her mother, brothers, and sisters as long as the family remained intact; indeed she was so devoted that she undoubtedly worked too hard for them. Was absolutely truthful, in fact, so marked was this trait that even in the Polly state we have never found her falsifying anything. Her work and her promises have always been kept. She showed good taste in the matter of clothing, was polite and well mannered. All those for whom she has worked or with whom she has lived have been very fond of her and speak highly of her in every particular except when she was ill and did things for which she was not responsible. She was quick and accurate at work and after she became stronger was of real help to us in the laboratory in a clerical way.

Polly on the other hand, while having many phases which we shall describe presently, was in general: loud, coarse, wilful, emotional, changeable, disobedient, selfish, egotistical, excitable, and unreasonable. She was sometimes a good Polly and sometimes a bad. That is to say when she was what we call good, although still wilful and excitable, she was pleasant and it was possible by working tactfully to get along with her quite comfortably. At other times this was not possible and the above characteristics showed to a marked degree. The language was rather consistently that of a four-year-old baby. She was fond of doing little stunts of various kinds and then saying to someone, "Can 'oo do that?" or frequently "Can her do that?" She would play on the floor like a small child or scribble with pencils or play with anything at hand. She would put two chairs together and crawl under them, playing it was a tent. Norma was very much annoyed when told of the various things that she did as Polly. Polly was very fond of jewelry and trinkets, would beg them from anybody

that came near, and would then show them to everybody that came in. She called eyeglasses "funny eyes," and would generally grab for them. She commented very freely on anything that attracted her attention, remarking on any peculiarities of dress; and one day when a prominent lady called upon her she said, "You've got paint on your cheeks." If anyone offended her she was equally free in telling them what she thought of them, frequently using language that was extremely unconventional.

A striking feature of the situation was that Polly would suddenly change her age and instantly adapt herself to the assumed age. For instance, one day when we found her talking and acting unlike a four-year-old child, we asked her how old she was and she said, "fifteen." And although the general Polly characteristics were consistent she manifested more the intelligence of a fifteen-year-old child. At different times in her history she has been eight and ten, in fact, almost any age. The fifteen-year-old Polly could be reasoned with, but she was very keen at arguing, especially when she wanted to have her own way. Upon one occasion when she was refused something she wanted she declared that if she did not get it she would act like the devil, to which I replied that it would be interesting to see how the devil would act so I thought we would try it. She promptly turned to a third person who was standing near and said, "I didn't think it would work that way." Upon another occasion she wanted to go to the dining-room for her dinner. When I hesitated to grant her request she began to tease and finally said that if allowed to go that time she would never ask to go again, then instantly exclaimed, "Oh, that's too much," meaning that she had promised more than she was willing to agree to. She was very self-conscious and egotistical, constantly saying, "Ain't I pretty?" "Don't you like me?" and similar expressions. Norma on the other hand was quiet and reserved, obedient to our slightest wish, willing to stay in bed or to eat her meals in her room if we wished her to do so; she rather belittled her ability than otherwise, never forgetting to be polite.

Norma found it hard to understand the lapse of time when she had been Polly for several days. Polly on the other hand never seemed to understand anything about this or to realize there was

anything strange in her conduct. When she wakened she took up the thread of her life where she had previously left it as Polly, and any interval, no matter how great, never gave her any perplexity. One of the most striking peculiarities of Polly was her complete anesthesia of which, however, she was entirely unconscious. For example, she never said "I cannot feel that," she had no realization that there was anything strange in it. One day she dug a pin into her wrist until the blood came; when asked what she was doing replied "Boring for oil." No amount of tickling, pinching, or other stimulation naturally painful or otherwise produced even a reflex twitching of the muscles. On one occasion she had a pencil which I did not wish her to keep and at which she clutched so that it was hard to get it away from her. I placed a paper over her hand so that she could not see and then pulled the pencil out of her fingers without her knowing what was happening although she still clutched it quite strongly. If she was sitting up in bed one could come up from behind and taking her by the shoulders put her back onto the pillow without her knowing that she was being disturbed until she got where she could not see what she was looking at. Or one could reach over her forehead from behind and close the eyelids with the fingers when she would merely say, "Oh, I can't see. What is the matter?" never once putting her hands up to see what was in front of her eyes or suspecting that it was anything external to herself. Frequently when I wished her to go to sleep and she refused I would close her eyes in this manner and then tell her that I would restore her sight if she would promise to go to sleep. Whereat she would promise and when I removed my fingers from the lids she was overjoyed at being able to see again and always kept her promise by lying down quietly and would soon be asleep. One day the physician thrust a sterilized needle under the finger nail, halfway to the roots of the nail without the slightest flinching on her part. When later she awoke as Norma she said her finger hurt her and wondered what the matter was.

On one or two occasions there was complete anesthesia of the legs to such an extent that she had no control of them and apparently did not realize that she had any such organs. She could

not stand. She was on the floor, and though intensely desirous of obtaining a certain object a few feet distant, made no effort to crawl to it—merely sat still and reached. She made no complaint that she could not move. She was in a state between somnambulism and Polly. After a time she slept and awoke as Norma with full control. In spite of this completely anesthetic condition she might fall asleep and wake up in a minute as Norma with all her normal sensations. Polly could be put into a hypnotic state and wakened as Norma in a minute's time upon any occasion when I could persuade her to be quiet long enough to produce the effect. At first the duration of the Norma state produced in this way was very short, but gradually it lengthened.

Her going to sleep during the daytime was generally, literally a fall. If she was standing she would fall to the floor as though suddenly struck dead. If she was sitting up she would fall over, and if she was lying down the same sudden relaxation generally showed by a quick drop of the head or of the arms. Then she would sleep perhaps for a few minutes very quietly although usually with a constant twitching of the fingers and mouth. After a little she would roll or toss and sooner or later throw herself out of bed unless prevented. Sometimes she would cry out, uttering various expressions that seemed to indicate a very disagreeable dream, or again she would rise up and start to get up on her feet in bed. When forced back into bed she would struggle and fight, sometimes even biting and scratching until her strength seemed exhausted; then she would fall back limp and unconscious. At other times she would lie with her eyes wide open but seeing nothing; sometimes she would talk but would pay no attention to what was said to her; or again she might respond in a way that would seem as though she were wide awake.

This is sufficient to give an idea of the two personalities. It is not surprising that to the person untrained in the phenomena of abnormal psychology such a situation should be thought of as two souls striving for the possession of one body—or some other uncanny manifestation. It is, however, the business of science to reduce to natural laws all such bizarre occurrences. We knew from the first that we were dealing with a case of major hysteria.

What we did *not* know was how to cure it. That we discovered at the end of three weeks.

Such cases are illustrations of extreme dissociation of consciousness with amnesia and are the result of an environment too difficult for the individual to face. The inability to face the situation may be caused by the extreme difficulty of the environment, the weakness of the constitution, or a combination of both. In any case, the difficulty of the situation leads to a longing for easier circumstances, an imagining of pleasanter surroundings. When the individual is physically too weak to set about improving the environment, he has to be contented with revelling in imaginations, in day-dreaming. This results in an elaborated mental mechanism so complete that one lives it as though real. Then given a physical organism so weak that amnesia comes in, we find complete loss of memory for one or the other of the two states—complete duality of consciousness.

The *cure* consists in removing the amnesia. This was done in Polly-Norma's case by the device of telling Polly in hypnosis that when she awoke she would remember Norma and telling Norma that she would remember Polly. That was the first step. The next was to overcome the nerve habits already formed. The third step is to build up a physical constitution that can face any reasonable environment—and provide the reasonable environment. The first was accomplished in three weeks. The second required three years. The third is *not yet.* Norma is today completely restored to normal mentality, but she is not physically strong enough to face an environment where she has to earn her own living without friends, relatives, or any help.

Such is the situation. In order to discover the bearing of such a case on educational theory and practice we must discover how Norma came to be in such a condition. We turn now to some facts of her history. Norma was born in 1901 (April 8), one of twins—of the type known as identical twins. They were the first born, the mother being twenty and the father twenty-two at the time. The home was good, the mother an attractive woman, a faithful wife, and good mother; the father, an accountant earning good wages. There is no abnormality in the family.

Elinor, the twin sister, died at ten of diphtheria, David at eight of tuberculosis, Ophelia at eleven of tuberculosis, and Lorenzo at two of spinal meningitis. Norma seems to have had a fairly happy early childhood, though always frail; her first grief came at ten when her twin sister died. Norma also had the diphtheria at the same time. She remembers her sorrow at the death of her sister. They were always together and fond of each other. Their mother could not always tell them apart, and Norma relates that sometimes when Elinor was sick, she (Norma) was given the medicine. Norma became adolescent at thirteen years, three months. Her mother had not told her about this epoch in her life, and as a consequence Norma was greatly frightened at her first experience. When she was fifteen her father contracted tuberculosis and after a year in a sanitorium, died of the disease. With the father's sickness many cares in the home devolved upon Norma and much work helping her mother care for the younger children. She remembers that she always felt tired. She did not sleep well and had many dreams. But the maximum of trouble was not yet. Not long after the father's death her mother also developed tuberculosis. At one time Norma was ill upstairs with influenza and her mother in bed downstairs with tuberculosis. She was then sixteen. Her mother was taken to a sanitorium and died there a year later. Thus at the age of seventeen she was orphaned.

She had already given evidence that her nervous system, never vigorous, was breaking under the strain. When her mother went to the sanatorium the home was broken up, and the children scattered. This was a severe shock—a tragedy in her life. Norma went to live with a friend of the family. She was then in high school. She would have finished the first year, but ill health compelled her to leave school in March. The following winter she lived with a distant relative. The house was large and desolate. The woman relative slept on the first floor and Norma was compelled to room alone on the second. Each night she must go upstairs in the dark. Naturally timid and afraid of the dark, she could not sleep under these conditions. She would sometimes creep downstairs and stay in the kitchen. Once she

was so frightened she awoke the woman and received a scolding. To cure her fear, the woman kept teasing her by talking about robbers; for example, as the child neared the top of the stairs on her way to bed in the dark, the woman would call out to an imaginary burglar, "There's your girl, grab her." In the spring Norma returned to the home of the friends with whom she had first resided. They noticed a marked change in her. At this time she had an attack of somnambulism. She had walked in her sleep as early as six years of age. This time she fell over in what seemed to be a fainting spell, but which proved to be only profound sleep. She wakened in a few minutes. These spells were rare at this time and showed no other symptoms.

In August of that year, 1919, she went to the city to earn her living. In September her mother died. Soon after this the sleep-walking became a habit, and once she was found with a carving knife in her hand. She explains that she was dreaming of snakes and got the knife to kill the snakes. In order to protect her, it was thought necessary to lock her in her room at night. This was an added cause of worry and suffering, which hastened her breakdown.

Her health was evidently getting steadily worse, and one morning while at her work she fell off her chair in deep sleep in which state she was so violent that she was locked in her room. The next day she was taken to one of the city hospitals. She slept for two days and could not be wakened, and later had repeated periods of sleep during which it was impossible to waken her. After seven weeks she was sufficiently recovered to leave the hospital.

Though no longer ill enough to remain in the hospital she was not strong enough to work. She was accordingly placed in a home for wayward girls. She remained here for three and a half months. This was perhaps the most unfortunate experience of her life. Finally on August 15, 1920, she secured a position in a good family where she took care of a small boy. She was fond of the boy and enjoyed the work, but in her condition the work was evidently a severe strain on her constitution. In November she had a short vacation when she visited in her home town. At this time she had another attack of sleep-walking. In August, 1921,

she was again sent on a vacation to the family who had adopted her youngest sister, now four years old. This was in her home town and she enjoyed herself visiting her girl friends. Her visit of two weeks was to end on Sunday when she would return to the care of the little boy. On Thursday previous to the Sunday she suddenly fell into somnambulism and after a troubled sleep with violent struggles awakened as the four-year-old Polly already described. For the next three weeks she alternated in the two personalities. She could never be left alone. When awake she was liable to fall at any minute, and when asleep she would throw herself out of bed if not watched. When held in bed to prevent her falling to the floor she became violent and struggled with super-normal strength for some minutes until exhausted, when she would fall back limp and relaxed, sound asleep. This might be repeated several times, or she might wake up in either personality. At this time the secondary personality was always the four-year-old Polly. As usual in such cases the one personality remembered nothing of the other. Nor was either personality able to recall what she was dreaming of when she struggled so violently in her sleep. Each personality took up the thread of life where it left off. On the morning of Sunday, September 10, Norma was eating candy. She suddenly fell asleep and awoke as "Polly." She was Polly when awake for six days. The following Saturday at noon Norma came back. Her first words were, "Where is my candy?"

At the end of the three weeks above referred to she was sent by the judge of her county to the Bureau of Juvenile Research for observation study and treatment. This brings us to the point where we started, September 22, 1921.

Two things must be clear. First, a constitution never strong was continually over-taxed. Second, her environment since the age of fifteen had been exceptionally harsh. Even before that she had overworked helping to care for her younger brothers and sisters. Her emotional life was severely shocked by the death of her twin sister at the age of ten. She had received little sympathy. Although of good mentality, she was taught nothing in school that helped her to meet the difficulties of life. She was treated to the

severe discipline that some educators think is essential to the development of character. She met, *unwarned* and unprepared, the ordeal of puberty. The distant relative with whom she lived for a time used a method of discipline still approved by some educators—the method of fear. This method all recent researches and investigations have shown to be pernicious and yet it is still used not only in the homes of ignorance but in some homes of supposed intelligence, and in some schools.

It is being daily demonstrated by the pupils that come to our clinics from schools and from colleges, that the shocks given to the emotional life of children are largely responsible for the failures, the perverted characters, and the damaged personalities. The increased crime from which we are suffering is *not due* to a soft pedagogy or weakened discipline so much as to a failure to treat wisely the problems and difficulties of the child. Harsh treatment will not always produce a case of dual personality, but it always tends toward dissociation, encourages day-dreaming, and always leaves a scar on the personality.

Polly need never have appeared. Norma might today be a happy useful woman had the school been as careful to develop health as to follow its curriculum. Perhaps it will be contended that there is no evidence of mistreatment by the school. Lack of treatment *is* mistreatment! Norma was in school *nine* years, during which time she was fighting a losing battle with her surroundings. There is no record of any help from anyone connected with her school. Norma remembers no teacher who ever did anything for her except to hear her *recite* what she had memorized!

It may be objected that I am making too much of one very unusual case. It is not my intention. I am using one case which *is* extreme, but I am using it because it is only a *magnified picture* of what is happening in lesser degree, to an alarming extent. We are properly disturbed by the increase of crime, insanity, and immorality. We are seeking the cause in that old rubbish heap, "not enough *laws*," "not severe enough punishment," "lax discipline!" The fact is we have too much law, too much punishment, too much discipline. What we need is more *understanding*,

more appreciation of child nature and of the methods by which the child mind develops; more willingness to keep out of nature's way and let the mind develop amid healthful surroundings; less attempt to force adult ideas upon children's minds by discipline, rules, regulations, and laws.

It is an antiquated psychology and a belated pedagogy that attempts to mold character as the sculptor makes a statue—from without. It is false philosophy which teaches that external forces make the man; false philosophy because it fails to accept the biological fact that growth and development are from *within*.

That infinitely delicate adjustment of electrons that we call mind or soul is not aided in its evolution to greater complications which spell efficiency, by *smashing* methods, but only by *gentle* handling. The safest indicator we have of whether our methods are wrong or right is the *happiness* of the child. Happiness first, all else follows. Continually make the child *unhappy* and you create a Polly. When happiness reigns Norma returns.

ART

J. R. Hopkins, *Ohio State University*, Presiding

THE RELEASE OF THE CREATIVE FACULTY

Claude Bragdon
Rochester, New York

To educate means *to draw out*, and that somehow suggests a slow and perhaps painful process—as indeed it often is, both for the educator and for the educated. But if any education which involves the element of beauty proves painful to either party, it is not of the right sort, for joy alone can precipitate beauty. Joy is released, and not extracted; hence I have entitled my talk "The Release of the Creative Faculty," rather than "The Education of the Creative Faculty."

Now in order to release this faculty it is necessary to believe in its existence, not in a few especially gifted individuals, but in every one; but quite unconsciously to ourselves we usually believe in it only in those in whom it has already manifested–after, and not before the event. This lack of faith in the unmanifest is one reason why so many "mute, inglorious Miltons" continue mute.

It is upon the word "release" that I would put all the accent; our preoccupation should be with processes rather than with products—with the pulling of the cork, so to speak, out of the bottle, rather than with what is in the bottle. That may prove at first to be an appalling mixture, but the important thing is that it has been made to flow, and from some deep source. This is a different, and a far more difficult matter than the mere teaching of those tricks whereby cleverness is made to conceal emptiness. It may sound highly mystical when I say that each pupil is a sacred fount which it is your privilege to unseal, a divine mystery awaiting your divination, but your success will depend far more upon this, your attitude, than upon your action, for it is pre-eminently the function of the pupil to act, and of the teacher to keep watch and ward over that action. So long as the pupil is confident, satisfied, happy in his work, withhold yourself; it is a

sign that he is getting what is good for him. But this mood is usually succeeded by another; doubt enters, difficulties multiply, discouragement supervenes. This moment of dissatisfaction makes effective action on the part of the teacher possible; the pupil is then passive, receptive, open to suggestion; his loss of confidence makes him willing to be taught. The character of this teaching will vary with the character of the pupil. Some are so conceited that a devastating criticism does them good, others simply freeze up under this sort of treatment, they need the warmth of encouragement and praise in order to make them flow. It is a mistake and also an injustice to attempt to establish some absolute criterion of excellence to which the work of every pupil is expected to conform, and by which it is judged. Such a criterion cannot and does not exist, it is an illusion of the limited consciousness, just as, according to the Einstein theory, the idea of the same moment of time is an illusion. In the universe there is only local time, and in the fine arts there is only individual excellence. In the young, profundity often takes on the guise of dullness, imaginativeness manifests as extravagance, and the power of taking infinite pains shows itself only as meticulousness. The teacher should therefore not ask, in any given case, what does this achieve? but, what does this promise? Release the latent powers of the pupil and achievement will follow, as its shadow follows an object.

Nothing is more necessary for the release of the creative faculty than perfect physical relaxation—in order that the inner self which is the source of that faculty may energize, the body—its vehicle—must be in a state of adjustment, happy, so to speak, free from discomfort or strain. The acrobat and the juggler know the importance of relaxation, because their living and even their lives depend upon it, but it is equally necessary to the artist.

It should be the first business of the teacher therefore to create conditions favorable to physical relaxation. The room should be of the right temperature, the light of the proper intensity and from the right direction, all properties and materials should be of the right sort and conveniently disposed and arranged. The matter of posture is important—it is well to work standing, easily yet firmly poised, with both arms free. These things all make for

contentment, for happiness; the inner self begins to feel as though it would like to sing, which is exactly what we want to make it do.

The pupil should be instructed in the right use and care of his materials. They should be kept neat and in order, thus inculcating the pride of the craftsman in the tools of his trade. The fact that some artists are careless in these ways and make a mess when they work, means only that they have formed bad habits but are strong enough to overcome the handicap. Moreover, there are subtle differences in disorder; the disarray caused by the ardent and unflagging pursuit of some inspiration by an accomplished artist, is not the same thing as the messiness of the tyro who doesn't know how to keep or handle his materials.

In the character and use of these materials the great thing in mind is to diminish the resistance—to "grease the ways," so to speak. Everything should be conducive to a broad, easy, more or less unconscious manner of work. An ample surface, soft crayon or charcoal, used with a fine, free-arm movement, the head and the spine erect—such things are favorable to this effect; just as to crouch, to squint, to niggle with a hard pencil in a few square inches of space are unfavorable. The first method releases, the other binds to an extent which it is almost impossible to realize. Prove it to yourselves in this way: try to connect two points on a piece of paper with a controlled line made with a movement of the fingers and wrist, and then do the same thing with a bold, swift, free-hand line, the arm used like the bar of a compass with the shoulder for the pivot. Compare these two lines: they belong in different categories; the last is like sure and stately music, and the first like a feeble and uncertain noise.

All this preoccupation with mere mechanics may seem trivial, but it is not. For the release of the creative faculty, there must be no hiatus, either in the hand or in the brain—inspiration falters if it is made to descend step by step; it must slide, arriving at the point of manifestation before the policemen of the mind can frighten or overtake it.

Pursuant of the idea of releasing something, rather than that of injecting anything, the beginner should be permitted to discover that "something" in his own way, as far as possible. But having

found it—imbued with an idea, that is—he will then become aware of his lack of knowledge and skill to project what he has imagined. The discovery of this felt need is what I have named "the moment of dissatisfaction," which is the psychological moment at which the teacher can intervene, and in that manner best suited to the pupil's character and needs.

It does not release the creative faculty to copy or to imitate —quite the contrary. Such things are aids to observation and exercises in technique, but they discourage originality. Originality is only good when it is disciplined. The question therefore naturally arises, by what, and in what way shall it be disciplined? There are doubtless many excellent answers. Here is mine.

The most important realization, in my opinion, that can come to the creative artist is that the handwriting of the spirit on materiality is inevitably mathematical, that it follows mathematical laws and therefore submits itself to mathematical analysis. "The life-movement of the spirit through the rhythm of things"—this is the first canon of Chinese aesthetics, and we should make it our own. The rhythm of things, the arithmetic of beauty should first and most engage our attention—the discovery of those laws according to which nature produces her every masterpiece.

Now this arithmetic of beauty, though inherent in the very nature of mathematics, is not so easily apprehended there as it is more indirectly in music, which is mathematics made audible, as it were. More indirectly still, these mathematics are discoverable in all natural growths, all organisms, and particularly in that supreme organic form, the human figure, which, in perfectly obeying, perfectly illustrates and publishes the mathematics according to which it was fashioned.

More practically and specifically, therefore, I recommend: First, the study of mathematics—not the mathematics of the school man, but rather the "divine arithmetic" of Proclus, the "golden sections" and "divine ratios" of Pythagoras, and *Dynamic Symmetry* that most modern and practical translation of this order of mathematics into useable, workable form. Second, I recommend the study of elementary musical harmony and the known mathematical ratios and relations between consonant and musical

sounds. This should be supplemented by the hearing of as much good music as possible, even to the point of working while music is going on, for it will impose some of itself upon the performance in the same way that when one hears a band on the street the feet unconsciously tread out its beat. Third, and with this no one will disagree—study nature in all its aspects, by first-hand observation, by analysis,—botanizing, and the like by sketching, even by photographing, but most of all by enjoying, abandoning oneself to the beauty of nature, first, last, midst, and without end. Fourth, know the human figure, that temple of the human spirit, the microcosm. To do this it is not necessary to make elaborate and carefully-shaded drawings from a posed model; an equal number of hours spent in copying and analyzing the plates of a good art anatomy, supplemented with a certain amount of life drawing done merely with a view to catch the pose will yield a knowledge of the figure of the kind I have in mind, the aim being to educate the eye in the finest known school of proportion, training it to distinguish minute differences in the same way that the hearing of good music cultivates the ear.

Just how to teach these things it is for you to discover. But as in the release of the creative faculty you should concern yourselves with processes rather than with products, so in its disciplining in the manner suggested, you should concern yourselves with generic laws and fundamental principles rather than with specialized rules whose application is limited. You will find the principles I speak of more or less imperfectly presented in this book and that, but in no one book coherently and completely. Such a book remains to be written. Three books which occur to me as coming the nearest to supplying your need in this direction are *Dynamic Symmetry*, by Jay Hambridge, *Proportional Form*, by Samuel Coleman and C. Arthur Coan, and my own *The Beautiful Necessity*.

The reason why I recommend this sort of stimulus to the creative faculty, instead of that digging in the boneyard so current nowadays, is because its whole tendency is toward the establishment and imposition of impersonal and cosmic rhythms in contradistinction to petty and personal tricks of expression, or,

worse still, mere copyism. Until we shall be able to recapture and re-illustrate those universal rhythms which are at the root of all great art because they are the very "music of the spheres," we shall not be able to interpret to coming generations ourselves or our age in terms enduringly beautiful. I believe that in the youth of today there is a great ebullition of spiritual life seeking expression, and the natural channel is through art, because soul-experience crystallizes, so to speak, in forms of beauty, as naturally as does water into snow. Your high and inspiring task is to assist at this process. I have tried to indicate some of the ways in which this assistance may be rendered. You will doubtless discover better ways of your own if you will let your pupils guide you even more than you guide them.

BIOLOGICAL SCIENCE

F. A. Hitchcock, *Ohio State University*, Presiding

KEEPING PHYSIOLOGY APACE WITH THE TIMES

L. D. Peaslee
Woodward High School, Cincinnati

Originally, education in this country was centered almost entirely around the three R's, and there was little or no thought that some connection might be found between the health of a child and his ability to acquire an education.

Gradually, but very slowly, has come the idea that the development of the body must keep pace with that of the mind if the fullest benefits of education are to be derived. To accomplish this, gymnasia and physical-training classes have now become an integral part of most of our schools.

This, however, is not sufficient; for it is not enough to build up a strong, healthy human machine and then leave its operator totally ignorant of its functions and care. About forty years ago the teaching of physiology in our high schools became almost universal. Strangely enough, it was introduced mainly as a weapon in the fight against alcohol and narcotics, and any knowledge as to the mechanism of the human body was incidental. In fact, the very ones who urged the adoption of physiology for the above-mentioned purposes, were loudest in their objections to its being used to "teach our children too much about things in which they were too young to be interested."

Because of this attitude physiology has fared badly in our high schools and, except in isolated instances, has failed utterly to keep up with the times. In some schools it has been crowded out entirely; in others it has been reduced to an insignificant two-hour course sandwiched in with the so-called essential subjects. Even here many programs are so arranged as to dodge it altogether. And what does the pupil get if he does take such a course? An abridged bit of dry, mechanical physiology which is taught, often, by a teacher who specializes in some other subject.

The pupil must have five hours a week in English, five in mathematics, five in science, and five in a foreign language; but physiology—oh, well, an allotment of two bells is sufficient. The result is quite apparent. Our modern youth knows how to run an automobile and can discuss its anatomy and physiology from a spark plug to a super-charger. He can build an eight-tube radio set and explain the relative values of radio and audio frequency currents and the use of everything from the cat's whisker on a crystal set to the quenched-spark transmitter. But when it comes to the simplest facts concerning the structure or the operation of the most important and delicate of machines, the human body, he is totally ignorant.

To be sure, a little physiology is taught in botany, zoology, biology, and even general science—but what a woeful bit with which to go through life! Even the two-hour course, where required, does not scratch the surface of those things which are most needed. Times are changing rapidly, and our modern young folks now come into high school with a store of information and misinformation which far exceeds anything covered by the present course of study.

To meet this, physiology must be elevated from its lowly position to that of an essential subject. It must be given as much time as any subject in the curriculum. Its program must be revised to include not only the usually-taught phases of physiology and hygiene, but also the problems of nutrition, sex, reproduction, embryology, heredity, and eugenics. These latter subjects should not be treated as detailed studies, of course, but should be given in the form of personal talks planned to offer much needed information and to correct erroneous ideas so prevalent among our youth. The special lecturer called in once or twice a year for this purpose will no longer suffice. Physiology must be taught by trained teachers with the ability to hold the interest, and the personality to command the confidence of their pupils; in fact, by those who can be big brothers and big sisters as well as teachers. The new physiology must do away with all false modesty and treat plainly and scientifically every phase of the subject, if it is to fulfill the needs of the maturing boy and girl of today.

THE EARMARKS OF A GOOD SCIENCE TEACHER

ELLIOTT R. DOWNING
University of Chicago

The science teacher should have a clearcut notion of what he expects to accomplish with his pupils by the use of science materials. To this end he should know and have definitely outlined in his own mind the knowledge he asks his pupils to acquire. He should be convinced that this knowledge is of large social value to his pupils. He must himself possess the scientific attitude of mind, and he must be cognizant of the steps in the process of scientific thinking so that he may effectively guide his pupils in their acquisition of the scientific attitude of mind. He must enthusiastically believe in this attitude as the great contribution of science to man's welfare. He should be so saturated with the biographies of some great scientists and the histories of some great scientific discoveries that he can impart his enthusiasm to his students and lead them to appreciate what science has cost and how it has been achieved.

Not only must he have thus definitely before him the ends he seeks to accomplish, but he must be skillful in planning every lesson so that each exercise will have an actual definite objective and work into the plan of the whole just as each cog or bolt fits into its place in the whole machine. He must himself know how to study and how to direct immature minds to acquire proper habits of study in science. He will need to know the probable difficulties of the students and be quick to diagnose and remedy them. He must know, therefore, how the thinking of young people differs from that of adults; how they are likely to make mistakes and how they can be led to avoid and overcome such difficulties. He must acquaint himself with the interests and point of view of his pupils. Problems that seem worth while to him may appear dull and stupid to them. He is fitting pupils to cope with their immediate problems, not with his.

He must be a seer, potent to reveal the marvels of the commonplace, the mysteries of the familiar, the strange histories that are unknown to the uninitiated. He must possess something of the sensitiveness of the artist and the impressionability of the poet so that the sublime beauty and infinite power of nature may play upon him to engender that contagious enthusiasm, that fire of faith that kindles an appreciation of Nature's moral significance. He must try to keep reasonably up to date in his specialty and in the pedagogical problems connected with his teaching. It would seem wise for him to be a member of some scientific society, and regularly read at least one journal dealing with science and its teaching.

The teacher of science should be all of this and more, for nothing has been said of his character and personal qualifications. They will be common to the genus *teacher*. Here interest centers in the specific character of the science teacher. Some of the things I have noted must be part of his heritage, must be born in him; others he may get from courses. He should have a broad foundation in the sciences; courses in astronomy, geology, physics, chemistry, and biology, particularly ecology. He must have a course on the selection and organization of materials, methods, and testing results in science teaching. A course or at least wide reading in the history of science would be desirable. He must be grounded in general methods, the psychology of learning, and the psychology of the child.

It is manifest from such an enumeration that the science teacher is constantly preparing for his job. After the initial graduation from college comes postgraduate work, summer schools, incessant reading of new books, of current magazines, meetings of scientific and educational associations.

It seemed advisable in preparation for this meeting to check upon this somewhat idealized statement given above, and find out what conditions actually maintain among successful science teachers. One criterion of the good teacher enumerated above, is that he is a member of some association of his progressive fellows and that he reads some journal devoted to science and science pedagogy. It seemed possible to secure information on some

of these earmarks of a good science teacher by sending out questionnaires to members of the Central Association of Science and Mathematics Teachers. So a month ago three hundred letters with enclosed blanks for information were addressed to these members who it was judged were teaching the natural sciences in high schools. A self-addressed and stamped envelope for reply was of course included in the letter. Eighty-two replies have been received that can be included in the report. More replies are coming in and I hope the final published report may contain returns from a large percentage of the three hundred persons to whom letters were originally sent.

The questionnaire calls for information regarding the science subjects being taught by each teacher, the preparation of the teacher for science-teaching, and his familiarity with some standard and some very recent books on the technique of science teaching, and on the history and biography of science. It was impossible to secure information on all the earmarks of the good science teacher without making the questionnaire tediously long. It was possible to secure it for a representative few.

Of these teachers, seven teach general science alone; twelve teach biology, botany, or zoology alone; twenty teach two or more of these latter subjects or one or more of them in connection with others; fifteen teach physics only; eleven teach chemistry only; eight teach chemistry and physics; and nine teach either or both chemistry and physics together with general science.

The preparation of these teachers is surprisingly good. Only four out of the lot had no science in high school, the average is nearly 3 years (2.78 yrs.) of such science, though less than one year's work (0.65 yrs.) is on the average taken in high school in that particular subject in which they are now doing the major part of their teaching. There is only one out of the lot who is not a college graduate, he is a normal-school graduate. Twenty-five hold Master's degrees, two, Doctor's degrees. The average number of years of science taken in undergraduate college work is 6.55, 3.16 years of which is in the science now their major teaching interest. Every one took at least one year of college work in the science that is now his chief teaching subject. Sixty have

done post-graduate work in science ranging from a six-weeks summer course to 7⅓ years. The average is 2⅓ years, of which 1.72 years is in the science subject now the major teaching interest.

On an average these science teachers have had courses either in high school, college, or postgraduate work in four (3.66) other subjects besides the one now their chief subject of instruction. Only one person has not had courses in any science other than the one he is teaching, and the maximum number of other sciences in which courses have been taken is seven, grouping all biological subjects together as one subject.

Contrast this with the conditions disclosed in a survey of seventeen hundred teachers of Kansas high schools.[1] Only 49 percent of the teachers of botany had had any botany courses in addition to their high-school courses; 36 percent of the zoology teachers, 75 percent of the physiology teachers, 64 percent of the general-science teachers, 86 percent of the physical-geography teachers, 34 percent of the chemistry teachers, and 41 percent of the physics teachers were without any preparation beyond the high-school courses, for teaching these subjects. Here is ground for optimism. Certainly the preparation standards for the science teacher are much advanced in the last decade. I realize that this group from whom my questionnaire is returned is a select group. Sixty replies received from science teachers in the smaller cities of Indiana and Wisconsin, not included in the report already given, show that 73 percent are college graduates, 21 percent, normal-school graduates, and 7 percent have had only a high-school education. All of 71 percent have had normal-school or college courses in the science or sciences they are teaching, and 16 percent are teaching courses in some one of which they have had no preparation beyond high school. The remainder, 13 percent, are presumably teaching science in high schools without any preparation beyond the high school courses in any of the sciences they teach.

Forty-six out of the 82 teachers in the Central Association who reported are teaching only one science; 21 are teaching two; 5 are teaching three; 5 are teaching four; 3 are teaching five;

[1] *University of Kansas Bulletin.* Vol. XV, No. 16, July, 1915.

TABLE I. FREQUENCY OF TEACHER-READING IN SCIENCE LITERATURE

Books	Chemistry, Physics, and General Science	Biology with other science	Chemistry only	General Science only	Physics only	Biology subject only	Total frequency
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Twiss, *Science Teaching*...	*13*	11	5	6	8	8	51
Franklin, *Autobiography*...	11	9	4	3	9	11	47
Vallery Radot, *Life of Pasteur*.....	11	*10*	6	3	3	9	42
Eikenberry, *Teaching General Science*.....	9	8	1	*7*	5	11	41
Mann, *Teaching of Physics*.	10	6	5	4	*13*	0	38
Darwin, *Life of Chas. Darwin*.....	8	9	2	4	4	9	36
Smith & Hall, *Teaching Chemistry and Physiology*	11	6	*10*	1	3	1	32
Woodhull, *Teaching of Science*.....	9	5	3	3	4	4	28
Thorpe, *History of Chemistry*.....	2	4	8	0	3	2	25
Locy, *Biology and Its Makers*.....	3	6	1	1	1	*12*	23
Cajori, *History of Physics*..	5	3	2	1	11	0	22
Venable, *Short History of Chemistry*.....	4	3	6	1	0	1	19
Brownell and Wade, *The Teaching of Science and the Science Teacher*.....	3	5	5	2	1	2	18
Rusk, *How to Teach Physics*	6	3	0	1	4	1	15
Thompson, *Life of Michael Faraday*.....	5	4	2	1	3	0	15
Thorpe, *Life of Joseph Priestley*.....	3	1	5	2	0	3	14
Roscoe, *Life of John Dahen*.	4	3	3	2	0	0	12
Sedgwick and Tyler, *History of Science*.....	2	2	2	0	1	2	10
Libby, *History of Science*..	2	2	2	0	1	2	9
Average.....	7.6	6.8	6.5	6.1	4.9	4.2	

and 2 are teaching six. The teaching load in these last two includes in one case, biology, botany, zoology, general science, chemistry, and physics; in the other case, general science, physiology, botany, zoology, chemistry, and physics. Even the

best-prepared teachers in the larger high schools must be ready to teach two or more sciences. In the smaller schools the science teacher needs to be ready to teach all the sciences and often other subjects as well. Thus one teacher reports from a Wisconsin city that he teaches arithmetic, algebra, geometry, physiology, biology, physics, penmanship, and American history, in all eight periods of the day. Three-quarters of the high schools in such states as Ohio, Indiana, Illinois, and Wisconsin are four-teacher schools, in which the science teacher must handle all the science. Evidently he needs broad preparation.

Of the nineteen books listed on the questionnaire, teachers were asked to check the ones they had read. They are given in the order of the frequency they have been read, the first having the most readers.

Teachers of chemistry, physics, and general science have read on the average 8.1 of these books; teachers of physics and chemistry, 7; teachers of biological subjects together with one or more non-biological subjects, 6.8; teachers of chemistry, 6.5; teachers of general science, 6.1; teachers of physics, 4.9, and teachers of a biological subject or subjects, 4.4. The average for all is 6.02, a surprisingly good showing. Two teachers had read none of these books; one had read 15, the maximum.

The Teaching of Science and The Science Teacher, by Brownell and Wade, has already been read by eighteen out of the eighty-two, and Rusk's *How to Teach Physics*, by fifteen, though these books were published only last autumn. The general histories of science are not popular with science teachers; and in only one group of the teachers who are specialists in one biological subject only, does a history of a subject stand first in importance. In four of the groups a book on the teaching of the special subject or of science in general leads the list.

PUTTING "BIO" INTO BIOLOGY

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Roosevelt High School, Dayton

If biology is the "science of life," then surely it should be taught in such a way as to link it up as closely as possible with the everyday experiences of the pupil. Since there are so many phases of the subject which might be taught, the teacher will have to select those which will contribute most to the ultimate goal of secondary education—useful citizenship.

The best method of presenting these topics is either by the laboratory or the field method. Even though equipment may be lacking, much may be done with home-made equipment. It is generally agreed that the life processes of both plants and animals should occupy a prominent place in the course. Many of these are capable of demonstration—digestion, by the chewed cracker and sprouted corn grain; circulation, in stems of flowers with colored ink, in animals by a frog's foot or the tail of a tadpole; food-taking in plants; osmosis, by an egg; roots dissolving rock, by a polished marble slab and some seedlings, photosynthesis in leaves; reproduction, in plants by pollen tubes grown in a weak sugar solution, in animals, by watching frogs' eggs develop.

Sex instruction may be given in a tactful way. Each pupil may fill out a chart with certain characteristics of his immediate ancestors and thus gain some concrete knowledge of heredity.

Health instruction should be given in a biology course unless provided for elsewhere. This presupposes a general knowledge of the structure and functions of the various organs of the body. The care of the body, hygienic habits of living, and prevention of disease should be taught. This will include a study of bacteria cultures to discover where they are most abundant and methods of destroying them.

Pupils should be taught to accept responsibility for the welfare of the school and community. As they learn the harm caused by flies they should conduct eradication campaigns. This may be extended to include mosquitoes, cockroaches, rats, mice, garden and shade-tree pests.

While they are eradicating the harmful pests they should be taught to encourage and protect such useful animals as snakes, toads, and especially the birds. They should learn to recognize the birds both by color and by song and should learn their habits and food so as to judge for themselves what particular birds are a benefit to man.

There is no better subject in the curriculum to train for the worthy use of leisure than biology. A knowledge of the trees, flowers, and birds will entice the pupil outdoors and will furnish a never-failing source of enjoyment.

And finally, in teaching the science of life the pupil may be led to an appreciation of the Author and Creator of life. At every turn a definite plan is revealed, and it should be an easy matter to lead the pupil to conclude that there is also a definite plan for each human life and that it is our business to discover that plan and to so fashion our lives that we may best fit into God's plan for the universe. Then and then only will we be worthy citizens of a Christian republic.

INDIVIDUAL INSTRUCTION IN BIOLOGY

VERNON T. SHEETS
Everett Junior High School, Columbus

I. The advantages of the plan

A. Individual instruction enables the teacher to find the difficulties of each pupil.

B. Teacher and pupil become better friends which leads to mutual helpfulness and solves many problems.

C. This method of work develops variety in problem-solving, presents new ideas, and eliminates the old set grind of class questions and answers.

D. The weekly plan of letting the contract or job to be done tends to systematize the work.

E. The teacher has more time for real instruction because interest takes the place of discipline.

II. Approaches
   A. Teacher
      1. Discussion
      2. Plan
      3. Outline
      4. Blue print
      5. Contract
      6. Assignment
      7. Job-letting
   B. Pupil
      1. Discussion
      2. Experiment
      3. Demonstration
      4. Illustration
      5. Conference
      6. Definition
      7. Composition
      8. Recitation
      9. Test of finished job

III. Whom will individual-study method benefit?
   A. The child who shifts responsibility
   B. The heedless child
   C. The child who worries over work
   D. The brilliant child
   E. The plodder
   F. The shirker
   G. The self-conscious child
   H. The individual pupil
   I. The absent or sick pupil
   J. The routine teacher

IV. What will it do to a daily program?

A. It has had no effect on ours as the science classes are the only ones using the plan.

B. Under the Dalton Plan, the entire program is enriched by the pupil's individual enthusiasm.

C. Programs are usually made in the interest of the instructor rather than of the pupil.

V. What individual instruction really does
   A. Arouses self-reliance and initiative.
   B. Develops personality.
   C. Replaces classroom routine with natural processes.
   D. Gives pupil a chance to cooperate with an interesting and sympathetic person, the teacher.
   E. Helps teacher and pupil to form habits of scientific thinking.
   F. Guides, instead of compels, pupil's thinking.
   G. Presents problems to pupils within the range of his development.

TEACHING BIOLOGY BY THE UNIT SYSTEM— AN EXPERIMENT IN TOLEDO

Anne Smead
Scott High School, Toledo

The year after a survey by Dr. Bobbitt, Dr. Downing gave a set of lectures which prepared the way for Mr. Beaucamp, who introduced the Unit System into the Toledo high schools.

The Unit System is a combination of laboratory and reference work without formal recitation—something like the contract system used in the Dalton Plan. The units are divisions of material centered around a general principle, function, structure, or group of organisms. Each unit has its subdivisions, called problems. Each problem is outlined by references to various texts, by laboratory directions, and by questions. The pupil has constant use of eight or ten different textbooks. The work on a unit begins with a written *pretest* by which the teacher endeavors to discover the background each pupil brings to the unit. This is followed by a *preview* in which the teacher gives the pupil a bird's-eye view of the unit. The pupil's listening ability is determined by a short test over this. Then there follows the work period, during which the pupil completes the first problem outlined by his instructions. When he thinks that this is complete, he comes to the teacher for a written or oral test, which he must

pass before he can go on to the next. As soon as possible we hope to standardize these tests for our own building. When a pupil finishes one problem, he may go at once to the next or he may do extra work, affording him a higher grade on the first. When all the work on a unit is finished, the pupil must outline it (*organization period*) without books and papers or take a test on it. One more period is devoted to a general oral discussion of the unit, when extra work is explained and ideas are exchanged, especially the ideas of those who have done extra work.

This plan is in the experimental stage as far as the Toledo schools are concerned; in other words, we are open-minded, trying it out, but not completely sold to it. In a short questionnaire answered by all the teachers who are using the plan, I found that most of the teachers were favorably impressed, especially those who were using the plan with older pupils, but few were willing to put themselves on record as entirely satisfied and a few were decidedly opposed to continuing its use.

A similar questionnaire answered by the Scott pupils, showed them to have no hesitation in their answers. They voted for the unit system by a vote of two to one.

The strongest features noted by the teachers were as follows:

1. Students do more independent work.
2. Pupils learn to interpret the printed page.
3. The rate of work is adapted to the individual.
4. The work is very definite.
5. Pupils do more work.

The weakest features noted by the teachers were as follows:

1. Because there is no formal recitation, pupils do not learn from each other.

2. Because of the varying rate, it is hard for the teacher to give the necessary explanation without much repetition.

3. There is too much work for the teacher.

4. There is danger of copying from the text without digestion.

5. There is danger of using books to the exclusion of laboratory material.

Pupils said:

1. It is easier to remember work which we have developed from laboratory work and books.
2. There is a chance for varying rates of work.
3. The work is so definite.
4. It is interesting and helpful to use books from many authors.
5. Pupils are more responsible for individual work.
6. The note book is useful in review.
7. We answer all the questions, not four or five a week.
8. It teaches the use of reference books.
9. There is less repetition of work which we know.

A few on the other side said:

1. There is great gain in class discussion.
2. There is danger of copying in the unit plan.
3. The class ought to be kept together.
4. The formal recitation covers more and is easier.

Although not entirely sold to the plan, we are enthusiastic enough to try the plan another year, believing that this year's work is the beginning of good work in the future.

CITY SUPERINTENDENTS

R. G. Jones, *Superintendent of Schools, Cleveland,* Presiding

STATUS OF SCHOOL BUDGETING AND FINANCIAL ACCOUNTING IN OHIO

Ward G. Reeder
Ohio State University

In discussing why a budget should be made, ex-Superintendent Spaulding of Cleveland, says: "The school budget is the most influential factor in educational procedure. It determines organization, methods, and results; the size of classes; means and materials of education; educational values; in fact, no phase of education escapes the influence of the budget—whether a budget is made or not."[1] Most of us, I'm sure, would agree with Dr. Spaulding in saying that the school budget is the "most influential factor in educational procedure"; and, I think, most would agree that the making of a *good* budget is one of the most difficult and painstaking tasks which a superintendent, his co-workers, and his board have to perform. However, I do not wish to give the impression that the task is mysterious or bafflingly technical. A knowledge of educational values, familiarity with the major principles of budget-making, diligence, and common sense will enable one to perform the job very acceptably.

Fundamental Principles of Budget-Making

Having said this, I desire to mention a few fundamental principles of school budget-making and to report briefly a few results of my recent investigation for the Joint Legislative Committee on Economy and Taxation, which shows to what extent these principles are being adherred to in Ohio. They will be stated under the three divisions into which budgeting logically falls: preparation, presentation, and administration.

In the step of preparation, the following principles should be kept in mind:

[1]Spaulding, F. A. "The Making of a School Budget." *School Review*, 26:684-96, November, 1918.

1. There should be full cooperation between the board of education, the superintendent of schools, and his co-workers in preparing the budget.—The initiative in preparing it should be taken by the superintendent and his co-workers, leaving to the board of education the function of inspection and approval or disapproval. The necessity for adherence to this principle is fully sensed when it is realized that budget preparation is a somewhat technical function—a function which laymen, such as the board members, cannot perform without much help and advice. The superintendent of schools and his co-workers probably know better than anyone else the needs of the schools, while the board members likely know better than anyone else the ability and the temper of the community to furnish the funds for financing the schools.

Ideally, the estimates of the needs of the schools should be built up by securing the opinions of even the lowest subordinates, janitors, teachers, heads of departments, and principals. I am not saying that the opinions of these subordinates should prevail, but I am saying that their opinions *should be secured*. These opinions should, of course, be passed up the line of organization to the superior officers and should finally arrive at the board of education which sits as the court of final authority. What I am recommending is that the board of education in making its decisions should have detailed information from all possible sources before its decisions are reached.

The data of my study, previously referred to, show that in practically all of the Ohio cities and exempted villages the cooperation just recommended does exist. In but a few instances is the board of education preparing the budget without the help of the superintendent.

2. The budget should be inclusive and analyzed in detail.—Every item for which an expenditure is contemplated, even though the item be for but a few dollars, should, at least in the preliminary steps of preparing the tentative budget, be set down. These items may, of course, be segregated under larger heads. Of course, the budget could be only a lump sum—a vague estimate. But such a budget is unscientific; its requests may be too large or too small; before such adopting authorities as the board of education, the

budget commission, or the public, it cannot be easily defended. For an excellent example of a budget that has been analyzed in great detail, I desire to call your attention to the Cleveland school budget for 1925-26.

My study shows that all budgets for Ohio cities and exempted villages are being analyzed, though the extent of such analysis varies from only itemization enough to meet law requirements to detailed itemization as, for example, in the case of Cleveland.

3. The budget should be a balanced one.—I mean by balanced that a disproportionate expenditure should not go for a certain item or items. Of course, actual needs must be met—but as to what constitutes an actual need there is and always will be a difference of opinion. One check on whether or not our budgets are balanced is a comparison of percentages for several items of our budgets with the percentages for similar items in somewhat similar communities. But keep in mind that a comparison does not establish an optimum practice; all that it does is to make us more aware of our practice and thus more competent to criticize it.

Generally speaking, that budget is best which gives as much as possible for instructional purposes, and as little as possible for other things without lowering the efficiency of teaching. It should not be forgotten that the primary purpose of any school expenditure is to make instruction possible. If our expenditures for non-instructional matters are large we should ask ourselves why.

4. The budget should not be padded.—I mean by this that no more should be requested than is actually needed. Some budget-preparing authorities go on the theory that the budget will be cut so much anyway, so they proceed to *pad* it by that amount. But such a policy, in my estimation, is not good business. I fear that it is not even *ethical* business. Budgets should be cut to the bone, then those who prepare them should be ready to take off their coats and fight for them if necessary. If one should lose in the fight, one retains at least one's self respect, and that is worth something. Moreover, if the budget is unceremoniously cut by those to whom it is submitted, the consequences will fall upon them. One may "get away" with a padded budget

once or twice, but not for long. I am happy to report that two-thirds of the city and exempted-village superintendents say that their budgets are *not* padded.

5. Available revenues should be listed.—This means that the various sources of revenues and the amounts expected from each source should be listed in the budget. It is incumbent upon those who prepare the budget to ascertain sufficient revenues to finance the projects suggested in the budget. Too many school authorities think that their function in budget-making is only to make requests; they deem it not their fnuction to suggest the sources of the wherewithal.

Presentation

As we have already observed, the school budget in Ohio must be presented first of all to the public for the inspection and criticism of any one interested. The theory back of our law is that the budget is a matter of large public interest, and, therefore, the criticisms and suggestions of the public ought to be worth securing by budget-making authorities. That this is good theory no one will dispute; but it is an unfortunate commentary that the general public does not seem to take an interest in budget-making. The Ohio law provides that a public hearing, which shall have been duly and properly advertised, shall be held on the tentative budget. Now, how many people attended these hearings last time? My data show that in at least 90 percent of the school districts of Ohio not even one person came to them. When the public was represented it was to the extent of one, two, three, or four people only. Let us hope that a greater interest in these matters on the part of the public can be cultivated.

After the budget has been presented to the public it must next be presented to the county budget commission. Whereas the public has no direct authority over the budget, the county budget commission has large authority. It is the duty of the superintendent and his board of education to present the budget so that it will pass through the hands of the budget commission with as little change as possible. The extent to which the superintendent and board of education can get their original budget

passed is one excellent index of their efficiency. Of course, if the budget has been carefully and scientifically prepared, its presentation will be much easier, and its chances for adoption either in whole or with little change will be much greater. Assuming that the primordial principle of correct preparation has been well attended to, there are but two major principles to be kept in mind in the step of presentation.

1. *Every request should be justified.*—This means that if an increase is asked for a given item the reasons for the increase should be stated. Conversely, if there is a decrease in the requests for a given item, the reasons therefor should be set forth.

Furthermore, the reasons given for the various items should be so stated as to enable those who finally adopt the budget to rank the relative urgency of the several requests. Frequently the adopting authorities cannot grant funds sufficient to care for all items, and they must then have information which will readily enable them to eliminate the items of least importance. However, adopting authorities should never eliminate items from a budget until those who originally made up the budget have been consulted. The arguments for the several requests should be presented briefly in writing and they should be as quantitative as possible; facts are more convincing than mere opinion. I am calling your attention to the Detroit (Michigan) budget as an excellent sample of a budget that is well buttressed with facts.

But to merely place the arguments in *writing* will seldom be sufficient. Personal conferences between the superintendent, the board of education, and the budget commission are frequently necessary, and always advisable, if the schools are to fare as they should in the distribution of the public funds. In view of the fact that all other tax-spending agencies, as well as the schools, are competing for funds before the budget commission, eternal vigilance is frequently the price of the schools receiving their necessary share.

2. *There should be full publicity for the budget.*—A frank and clear statement of the needs of the schools will tend to beget public confidence and to disarm criticism in advance. This is the spirit of the Ohio law. Notwithstanding the almost total lack

of interest at present, perhaps, within a few years the public can be educated to take a greater interest in so important a public matter as budget-making. With an informed and aroused public supporting a budget request, the request cannot fail; without such support, perhaps the request should fail.

ADMINISTRATION

Two major principles should be kept in mind in administering the budget.

1. It should be followed.—This means that the budget should be binding on the administration in at least the major items for which definite amounts have been appropriated. Unless these appropriations are followed when possible, of what use is the making of a budget! However, this does not mean that the budget must be slavishly followed irrespective of needs. Although needs may have been prophesied as carefully as possible, frequent upsets may require readjustments. An unusually long and cold winter may call for an extra large expenditure for fuel; a tornado, a fire, a flood may necessitate unforeseen repairs; the cost of some item may change radically within a few months. These things cannot be foretold or controlled by human minds or hands. When these unusual conditions arise they must be met, and must often be met by a transfer from one fund to another. Such a transfer the present budget law of Ohio will permit, provided the transfer does not violate an outstanding contract or obligation, and provided it is approved by the budget commission. The Ohio law permits boards of education to carry a "reserve balance" to meet emergencies such as indicated above. Unless this reserve balance is needed it goes into the funds available for the next fiscal year. The ideal budget, of course, is one whose expenditures and income balance at the close of the fiscal year. A large surplus is almost as undesirable as a large deficit.

2. There should be a definite and systematic check upon expenditures to see that they do not exceed the appropriations.—The necessity of this becomes more evident when we recall that boards of education in Ohio are now personally liable for spending more than has been appropriated. To guard against any breaking of the law, and as a principle of good business, a financial

accounting scheme should be introduced to make an easy check at any time on expenditures, outstanding orders, and obligations, with appropriations. These checks should be made at least monthly. In fact, it is the intention of the Ohio law that no contract or obligation be entered into until the financial accounts are consulted to see whether or not there is a sufficient unencumbered balance to meet such contract or obligation.

EFFECTING FINANCIAL ECONOMIES

Paul C. Stetson
Superintendent of Schools, Dayton, Ohio

While financial economies in the conduct of our schools are necessary, they should not be effected upon the "penny wise, pound foolish" basis. It is not real economy to reduce teachers' salaries and destroy the morale of the teaching force. The money saved through this type of economy will prove vastly more expensive to the community than teachers' adequate salaries. A discontented teacher is a menace. Contented teachers should be the only ones to impart to young America proper ideals of citizenship.

Real economies, however, may be effected in the following ways: First, by increasing the size of the classes in junior and senior high schools. Scientific studies seem to point to the fact that large classes may do as well in scholarship as very small classes. In Detroit such a program has been the saving of $1,230,000. It has been estimated that in one city of medium size in Ohio, this program meant a saving in instruction costs in high school of $12,500. Second, by so reorganizing our plan that the elementary school will consist of seven grades instead of eight. While this has been done in many cities, no particular studies of this have been made. Third, by concern for the construction of school buildings. Scientific planning of school buildings will result not only in giving the community buildings which are better adapted to the educational program, but also in actually reducing the steadily mounting costs of school buildings. The experience in Dayton indicates that modern school buildings can

be erected, and, at the same time, real economies be effected. This is shown by the fact that our per capita costs of junior high schools are running from $306.00 to $316.00. We are able to do this through careful scientific planning and the adoption of the coordinated-group plan of class organization, similar in form to the Gary system.

SOME FUNDAMENTALS INVOLVED IN THE FURTHER EXPANSION OF OUR PUBLIC-SCHOOL SYSTEMS

H. S. Weet
Superintendent of Public Instruction, Rochester, New York

Within the memory of many a school man of today, the public-school system had set before it a few very definite tasks which required a comparatively simple organization to perform. As long as the elementary school gave to the pupil a working command of the tools of education, in the form of ability to read, write, and speak the English language, and to know and use intelligently such processes in arithmetic as were then in vogue, there was a satisfactory degree of community confidence in the work of this common school. And it was quite as true that as long as the high school prepared satisfactorily for college those students who were fortunate enough to attend it, the high school was doing the work which the community expected of it. All this is simply another way of saying that the school of this earlier day was primarily concerned with the science or the knowledge side of life in the community. This was no less true of geography, history, civics, and physiology, than it was of the three R's. The names and locations of places in geography, and the dates and details of wars in history, were major factors in the teaching of these subjects. While a knowledge of the organization and structure of government was the chief aim in the teaching of civics, so a knowledge of the organization and structure of the human body was the end sought in the teaching of physiology. To the superficial observer the public school then had little, if any, interest in health education as a means of influencing the physical conduct of pupils, or of social studies as a means of developing what has come to be referred to as the social and

civic-minded citizen. Apparently, the one great purpose of the school was to enable the pupil to pass the final examination and thereby gain his promotion.

It is, of course, a commonplace to say that the chief business of this public school of a generation ago, was to impart knowledge. It is, however, a commonplace that merits approval rather than adverse criticism. We must pay a high tribute of respect to the definiteness in the aims and the effectiveness in the work of these schools of an earlier day. Out of the communities which they served came strong men and women who did the work of the world and who did it well. What we need to remember, however, in connection with this limited scope of the school, is that the school was but one of the forces, and by no means the most important force, that the community provided for the development of such lives. It is not surprising that some people look back upon the past and ask whether we shall ever again find quite the combination of forces for the development of strength, whether of body, intellect, or character, that was so prevalent in this country a half century or more ago. To provide for the science or knowledge side of life was the one thing for which the public school was responsible. Training in the art of living, on the other hand, was the work of the home, the church, the workshop, and the farm. It is important to our discussion here that we recognize this combination of the past as a necessary background, even though it involves a review of that with which we are all familiar.

It may be fairly claimed that in most respects the public school of today is depended upon no less for its training in all the essentials to right living than it is for sound instruction in the various fields of knowledge with which it has to deal. Those of us who are engaged in public-school work know that more conscious attention is given to character development by the schools of today than was ever given at any other period in the history of these schools. And yet to offset the outside influences in community life that make for moral flabbiness, the demand for more systematic and effective moral education in the schools is increasingly insistent. This is highly illustrative of one trend of public-school expansion. It is

not difficult to find other illustrations of the same principle. Never has religious instruction in the schools been more actively discussed nor more urgently pressed than it is at the present time. Cooperative week-day religious instruction between the school and the church has spread with remarkable rapidity during recent years. Again, the practical disappearance of the apprenticeship system has more and more called for the introduction into the public schools of courses which train for the sort of thing which commerce and industry formerly gave entirely outside the school. In short, the school, more than any other one agency, has been called upon to compensate for the loss in power which changed conditions in society may have brought to any one of these institutions or organizations, upon which we have depended for transmitting from one generation to another those social inheritances that are believed to be essential to community welfare. One important phase of public-school expansion, therefore, has been the enlarged scope of service.

While this expanded scope of the public school has, without doubt, been an important factor in increasing public-school enrollment throughout the country, it has, nevertheless, been by no means the only, or even the most important, factor. It is difficult sometimes to realize that in less than a single generation we have gone from a point where the home was practically free to dictate the amount of time which the child should spend in school, to the present period of enforced attendance laws that demand not infrequently either full- or part-time attendance of school from the age of six or seven up to the age of seventeen or eighteen. The result has been an unparalleled growth in the mere numbers to be served. During the thirty-year period ending in 1920, the general population of the United States increased 68 percent. During the same period the growth in the elementary and secondary schools of the country combined, was 139 percent, or somewhat more than double the growth in general population. But the growth in our high schools alone for the same period was 0.986 percent. That is to say, for every one hundred high-school pupils attending our public schools in 1890, there were 1,086 attending in 1920. In the colleges and universities of the country,

both public and private, there was an increase in attendance of 432 percent. In brief, the elementary and the high schools of the country combined, grew approximately two times; the high schools alone, fourteen and four-tenths times; and the colleges and universities, six and three-tenths times, as rapidly as did the general population during this thirty-year period. We probably fail to recognize that there is no phase of public service that the mere increase in numbers alone has necessarily expanded to such a degree as has been the case of the public schools. It is a trend that must be taken into consideration if our policies for the future development of the public schools are to be soundly framed.

There is a third trend of expansion in the direction of improved service. It is only ten or twelve years ago that one year of professional training after graduation from high school, was sufficient to qualify a teacher for work in the kindergartens and the elementary grades of the Rochester schools. Today, no teacher is eligible to an appointment in the elementary schools who is not a graduate of a normal school after having completed a course of study therein of not less than three years, or who has not had the equivalent professional training. It is only within the last ten years that health education has actually become a real force in influencing the physical conduct of the pupils of our public schools. In my own state and in several other states, a strong health education program is mandatory under State Law. Specially trained teachers are required wherever building conditions are such as to make it possible for these teachers to work to advantage. Again the development of junior high schools throughout the cities of the country is simply a step in the direction of improved service. These and many other equally effective illustrations are familiar to us all. It is a trend or a type of expansion that we have welcomed. Not infrequently we feel, as a matter of fact, that about the best thing that could happen to our public schools, would be to have the two former types of expansion greatly retarded for a time, in order that this trend of improved and refined service might be more satisfactorily developed.

Now there are, of course, several fundamentals involved in this whole subject of future public-school expansion. If there

were time, it would be interesting to take each line of expansion to which reference has been made, and follow through some of the educational implications involved. One of the standard objections made against expansion, under the first trend presented, is that our public schools are so rapidly displacing the home as to weaken this one basic institution of society. Generalizations are made to the effect that one by one the school is taking over those obligations that were formerly assumed by the home. Anything like a detailed consideration of these objections will show that, for the most part, they are not valid. Whatever the influences may be that are at work to undermine and weaken the American home, certainly the public school is not among them. And when we attempt to put our finger on specific functions of the home that have been appropriated by the schools, we find that there is only an exceptional case where any suggestion of this kind exists.

The one thing which has given, and will doubtless continue for some time to give, grave concern in this matter of expansion, is this subject of finding ways and means of financing the expansion. Some one has said in substance that pretty nearly every problem is in the last analysis a problem in economics. However this may be, there would be no difference of opinion among us that this financing of our school systems is bound to be a matter of increasing concern as time goes on. We shall use the State of New York and the city of Rochester for the purpose of illustrating the common elements involved not simply in the problem but in its solution.

In the city of Rochester the public schools, as far as their financing is concerned, are a department of the city on precisely the same basis as is the Department of Public Works, or any other department. This reference is not to administration but rather to financing as far as the schools are financed through local support. There is, however, a limitation fixed by the Constitution of the State of New York, to the amount of money that can be raised through local taxation for the support of schools and all other departments of city government. That limitation is two percent of the assessed valuation of real and personal property. As far as practical considerations are concerned, this means that

real property is, at the present time, the one source of local revenue upon which the city of Rochester must depend for financing all these activities. It appears that New York is the only state in the Union in which a limitation to current operating expenses, involving schools as well as the more regularly recognized city activities, is fixed in the Constitution of the State. This fact, however, has to do rather with the form than the principle of such limitation. The more common, and, in our judgment, by all means the more defensible, limitation is the statutory limitation.

If we trace back the relative expenditures between schools and all other departments of government in the city, since the time that this particular amendment to the Constitution was adopted, that is to say, since 1874, we find that the share of the whole used for schools remained pretty much constant until about ten years ago. While a variation set in at the particular time, it, nevertheless, led to no embarrassment until sometime after. Then came the disproportionate increase in the share of local funds devoted to the support of the schools. That share, as far as Rochester is concerned, has risen approximately from 25 percent in 1920 to more than 45 percent for the latest fiscal year, 1925. The far-reaching effects upon city financing involved in this disproportionate increase in school expenditures over expenditures for all other city purposes, are pretty much apparent. City authorities, who face the responsibility of determining what share of local funds shall be devoted to education, have been generous in their support of the public schools. But it must be plain to any one that this disproportionate increase cannot go on if the other departments of local government are to meet the rapidly increasing needs and demands of the city. Of course the one factor which more than all others combined is responsible for this disproportionate increase, is the expansion of the public-school system along the lines previously discussed. On the one hand, there has been this pronounced expansion not only in the way of improved service but in the way of larger service even for the same numbers. On the other hand, school population has grown more than twice as rapidly as has the population of the city as a whole, and in the high schools where costs are heaviest,

school population has grown more than five times as rapidly as has the general population.

We may well consider this condition among the fundamentals involved in the future expansion of our public-school systems, because it applies so largely to the public-school systems of the entire country. With such facts staring us in the face we may well ask ourselves as school administrators, how much farther this expansion can continue without undermining the greatest asset that any public-school system can have—the confidence of the community which it serves. Unless there can be found in the years lying immediately ahead, a sounder system of financing public education than has thus far been developed, boards of education will be forced to resist the demands for future expansion, regardless of how urgent and important such expansion may be.

No reference to the solution of this problem would be complete that ignored the factor of economy in the administration of all lines of service now carried on by our public-school systems. And yet, we have still to find any convincing evidence that even the most drastic economies that might be recommended by the severest critics, would go far in the solution of this problem. Lest we may seem to overlook the importance of this factor, however, let it be frankly stated that not only in the interest of school financing but what is even more, in the interest of sound educational procedure itself, there should be the fullest possible exercise of thrift and economy in the administration of the public schools.

A second factor that in reality gives no greater promise of solving the problem is curtailment of the service. Unless conditions in your various communities are different from those in the communities with which we are familiar, not much headway will be made in this direction. Our common experience at budget hearings, extending over a period of years, is that where one demands a curtailment of service and a corresponding reduction in expenditures, a dozen or more make their demands either for an improvement or an expansion of the service itself. Furthermore, it is particularly true that if there is any branch of the

service which the people of our communities have shown themselves unwilling to curtail, it is the service rendered by the schools.

As we turn to the question of increased resources, there seem to be almost equally baffling problems. To the casual observer, accepting for the minute that at least a partial solution must be found in increased financial resources, the most obvious course is to increase by whatever procedure may be required, the present limit to whatever amount might be agreed upon. In the State of New York this would mean an amendment to the Constitution and such an amendment cannot be made except as it is voted at two consecutive legislative sessions and then approved by the people of the State. Of course, the procedure would be much simpler in those states where the limitation is fixed by action of the Legislature only. This, however, does not take us to the root of the problem. If the present local sources of taxation fairly distributed the burden of taxation, or called upon each to pay in accordance with his ability to pay, the proposal to increase limitations would be valid. This brings us to what we all recognize as the crux of the problem. The great source of local revenue for financing the cities of the country is the general property tax and by common consent the day has long since passed when the amount of real property which a man owns necessarily measures his ability to pay taxes. It is difficult to know how even the most ardent advocate of public education, who faces squarely this financial problem, can fail to recognize that however inadequate the local revenues may be that are derived under present limitations, they are by and large all the revenues that ought to be derived from a tax on real property.

Still assuming that additional revenues must be provided and that the property tax cannot fairly be expected to provide these revenues, there are still two other sources to be considered. One is the adoption by local communities of forms of taxation other than the property tax. In theory, at least, there is no logical reason why the municipality should not adopt the personal income tax, or the business tax, or several other forms of taxation now used among the different states of the country. The practical objections, however, are very real. No one of us

can be greatly surprised when the citizen throws up his hands and declares that life is not worth living if to the Federal Income Tax and the State Income Tax, there is to be added the municipal income tax. Equally objectionable at the present time seems to be the rental tax, or these other additional forms of taxation that might in theory be adopted by the local community.

The second, and to our minds the soundest and most promising, factor in the solution, as far as the increased revenue side of the problem is concerned, is to have the State assume a larger share in the financing of our public-school systems. We are by no means unmindful of the questions that have been raised as to the wisdom of this procedure. Neither are we convinced, on the other hand, that the questions raised and the objections offered are sufficiently valid to throw this consideration out of court. It is a matter of common consent that the broader the tax base the more equitable is apt to be the distribution of the tax burden. A half century or more ago, practically the only broad base was property. By common consent the broadest and fairest base, today, all things considered, is the income tax. This can be imposed by the State with far less inconvenience and opposition than by the local communities. In fact there is bound to be far greater flexibility in the revenue systems available to the State than in the revenue systems available to the individual community.

To conclude, there are in reality three forms which the very rapid expansion in public-school service has taken during the past quarter of a century. One has been in the direction of improved service. Improved service costs additional money. A second factor in this expansion has been the demand for enlarged forms of service of a type that few if any would have anticipated a quarter of a century ago. And the third factor involved, has been the unparalleled growth in numbers to be served, as a result of increased effectiveness in our school work and both extended and better enforced compulsory-education laws. Under these conditions mounting costs are inevitable.

In so far as we can judge the future by the past, there is no reason to suppose that this demand for better service and for

larger service to increasing numbers will not continue. It is folly, however, to suppose that we can go on with these expansions as we have been going, except as improved means of financing our public-school systems are worked out. That these will be worked out, there can be no doubt. On the one side in working through this problem, we shall recognize the need of effecting every possible economy in the administration of the public-school program, in the interest of reducing public-school expenditures and promoting educational welfare. On the other side, everything now indicates that we shall go along one or both of two courses. One is that of increased financial support from the State, while the other is that of additional means of local taxation. The day has long since passed when the amount of property which a man owns measures his ability to pay taxes. Other bases must be found and used. Whether they are used through state or local channels is a matter of convenience to the people, rather than of fundamental concern. The important thing is, that they shall be used.

CITY SUPERINTENDENTS

RANDALL J. CONDON, *Superintendent of Schools, Cincinnati,* Presiding

WHAT MAY THE SUPERINTENDENT EXPECT OF THE YOUNG TEACHER?

L. A. PECHSTEIN
University of Cincinnati

Hope differs from expectation, the latter being based on facts. Our topic resolves itself into three questions. The first is—what does the superintendent find in the case of the young teacher? What can be said of her cultural and professional training, her family and social background, advantages she has had, her intelligence, her tastes, and her maturity? The facts are at hand. Coffman's monumental study of fifteen years ago, backed up by more recent studies, shows that the typical new teacher, even of the type trained by the two-year normal school, enters teaching while still in the nineteenth year, from a family of four or five children, of small income, weak in cultural influences, and demanding that the girl take the easy step into a highly respectable calling because of economic pressure. Recent studies of the social and economic status of the new teachers trained in the five-year university program of the College of Education of the University of Cincinnati show that the extended college and university course produces teachers twenty-three years of age, drawn from families of higher social and economic groups, native born rather than otherwise, and that the motive for entering teaching is primarily not economic. In other words, a teacher trained in the long-time institution has professional, cultural, social, and intellectual qualifications which the short-term trainee cannot show. It follows that one-year and two-year normal schools need to extend their programs of training in order that time may be provided for so enriching the cultural content of the training years as to supplement known and measurable deficiencies of the students now entering these institutions. Apparently the short-

term institutions have selective powers which do not guarantee nearly what the superintendent may properly expect of the typical young teacher.

The second question relates to the attitudes the superintendent may expect to find in the young teacher. Speaking from the standpoint of the training institution, it may be said that the authorities seek to develop four essential attitudes: (1) A scientific attitude towards the solution of educational problems. (2) An attitude of growth, which involves the expectancy to grow in service, and to attain a level of greater usefulness annually. (3) An attitude of expectancy for expert assistance in teaching, which means that expert supervisory aids and techniques will be available during both the year of full orientation and subsequently. (4) Finally, an attitude of idealism towards the profession, the worthwhileness of the job, and the social value of her work are stressed. It is held that the superintendent can properly expect soundness in all of these attitudes. The question emerges as to how long these attitudes last, whether expectation is realized, and whether the appointing school system meets the challenge thrown out by the well-trained young teacher.

The third question naturally emerges—what may the young teacher expect from the superintendent, or, what is the superintendent prepared to give? Has the superintendent a place in the teacher-improvement program of the young teacher, has he a knowledge and control of available supervisory techniques, these operating not only to save the young teacher from failure but to make her a highly efficient school agent? Does he stand as a scientifically minded leader in all features of school work, herein preventing the scientific let-down of the young teacher's attitudes? Does he function as a pace-setter for growth in service, not only insisting upon growth of his teachers, but upon growth for himself? Finally, does he allow the spiritual idealism of the young teacher to be dulled by the harassing routine of the day, or does he keep this strong and progressively enlarging? It is held that with the superintendent selecting young teachers from the long-term training institutions, he will find excellent cultural and professional development and desirable attitudes of mind operative. It is

furthermore held that what the young teacher is rests upon that just mentioned; that what she becomes, rests, to a very large degree, upon the superintendent.

WHY A THREE-YEAR TEACHER'S COLLEGE COURSE

H. M. Buckley
Assistant Superintendent of Schools, Cleveland

The following are some of the most important reasons for requiring a three-year course of training for teachers in the elementary schools instead of a two-year course as is now present in many systems:

1. The elementary curriculum has increased from approximately five subjects in 1775 to approximately twenty subjects at the present time. Furthermore, a great deal of the content that was at one time in the seventh and eighth grades is now being forced into the fourth, fifth, and sixth grades. In order to receive even a bare introduction to this large body of content the young high-school graduate is rushed through the two-year course of training at the rate of twenty-four hours per semester, as contrasted with fifteen to eighteen hours a semester in a college of liberal arts.

2. From the two-year course of four semesters, one semester is now taken for training, leaving only three semesters for content and method, or theory.

3. Because of the inadequacy of two years of training a considerable number of what were once called "normal schools" are now on a three- or four-year basis. This change has been indicated by the change of name from "normal school" to "teachers' college" in a large percentage of the teacher-training institutions, both city and state.

4. A great majority of the teachers who begin their work after only two years of college preparation never return to college for further study. A very much larger proportion of teachers will, after having taken three years of college work, return for the fourth year and complete the work for a degree. This will go a long way toward placing elementary teachers on a more professional basis.

5. A three-year course will make it possible to offer two full years of content courses, leaving a full year for theory and practice, or technique and training. Regardless of how adequate the course a teacher may pursue in both theory and practice she cannot teach unless she knows some content. When the function of the elementary school was considered primarily that of acquiring some skill in the tool subjects, the meager content of the two-year normal-school course was adequate. The present tendency to define education as living and as experience is forcing us to offer pupils something other than formal drill. The growing conviction that basic social attitudes are developed in the elementary-school grades which have a significant bearing upon conduct later in life, is demanding a larger experience and training on the part of the teachers who are to set up the curriculum and administer it in such a way as to develop proper social attitudes.

6. The coming curriculum for the elementary schools will substitute factual material as found in the actual life experiences of the child for the formal drill subjects. We shall not dispense with tool subjects nor entirely with drill, but they will become incidental while factual material will become the central core of the modern elementary curriculum. Before the teacher can administer such a curriculum she must become acquainted through immediate experience with the great body of factual material which is of vital interest to children. She must not only become acquainted with the biological and physical sciences as they affect the daily life of the pupil, but she must specialize in some portion of this elementary curriculum before she can become a member of a genuine profession.

CLINICAL PHYCHOLOGY

HENRY H. GODDARD, *Ohio State University*, Presiding

THE GIFTED CHILD

HENRY H. GODDARD
Ohio State University

The absence of Dr. Terman from this meeting is a greater disappointment to some of us than we can possibly indicate. We had hoped to have the subject of "The Gifted Child" discussed by an expert. Instead, it will be discussed by one who knows nothing about the subject except that he has been privileged to observe intimately the workings of a dozen special classes for gifted children for some five years. Some of his observations may be of interest to you as they have been to him.

I want to say that although we have been disappointed in the absence of Dr. Terman, we have been favored with an extremely able paper from one of Dr. Terman's students, Dr. Catherine Cox.

For approximately twenty years I have been doing what I could to encourage the formation of special classes for the training of dull pupils. In arguing this question I have shown the normal distribution of intelligence and have pointed out that these children were at the lower end of the scale. It has rarely happened that someone has not asked, either during the lecture or afterwards, why we did not do something for the children at the other end of the scale who are unusually bright. Now at last we are doing something for them. Professor Terman has produced an epoch-making study of a thousand such children. Many school systems are turning their attention more or less to this group. About forty-five cities of the United States have one or more special classes for these bright children. The city of Cleveland has fifteen such classes, with a total of something over four hundred children. As I stated, I have been asked for years why something was not done for these bright children. The moment we begin to do something, objections arise. The commonest objection against segregating these children into a special class is that it will make

them conceited and will develop prigs. This objection is easily disposed of by the simple question, "Which is more likely to make children conceited, to be one of a group of children all equally bright or to be the brightest child in a class of forty or fifty ordinary children?" A genuine objection regards leadership. Just the opposite of the former, it maintains that in the regular grade, the bright child is the leader, whereas if we take out twenty of these and put them in a group by themselves, there can only be one leader. The fallacy here concerns the undistributed middle term, as the logicians call it, that we are using the term *leader* in different senses. There can be only one leader of the group in a class of twenty, but there are other kinds of leaders than leaders of men, and we may still have twenty leaders in this group, each a leader along his own special line. It is sometimes objected that the method is not democratic; that we are picking out a favored few and giving them special opportunities. The answer to this is that it is the *only* democratic procedure, because the equality referred to when we say that "all men are created equal" can mean nothing but equality of opportunity, every individual having the opportunity to develop his talents to the fullest extent. The gifted child in the regular grades does not have such opportunity. He is held back and hampered in many ways. In some cases he develops the habit of laziness, in others the habit of mischievousness, which in some cases actually develops into malicious mischief.

A specious objection is found in the argument of some school men that they do not want to remove these bright children from the regular grades because they are needed there as examples and pace-makers, that they are helpful to the other students. Any teachers of experience who have looked up the matter thoroughly know that just the opposite is true. The bright child in the group is not a pace-maker but a sort of discouragement to the other children. Asked why they do not try to reach the head of the class, they reply, "Oh, what's the use? Johnny Jones, or Bill Smith, or Mary Gardner is always at the head." Other objections have sometimes been urged, but none are more important than these.

These objections are not only answered in theory as already stated, but in practice, they are found to be no objections.

For example, after five years observation of these classes I have yet to see a single instance where the child has developed priggishness or any other objectionable character trait. On the contrary, everything about these classes is thoroughly satisfactory, but it is extremely difficult for one to maintain a cold scientific attitude and not let his emotions run away with him. Many people think they object to these classes because they say they do not believe in pushing these children through the grades. Neither does anybody else and it is not done. Already educators are pretty thoroughly agreed that this is not the policy for these classes. On the contrary, the children are given more work to do rather than allowed to do their work in the shorter time. They will gain a year or two in the early grades because one cannot help their learning to read and write quickly, but having learned these fundamentals, there is no sense in their drilling on them after having once acquired them. After that they go at about the usual rate, and, having done about the usual requirements of grade work, they spend the rest of their time on extras. For example, in the Cleveland schools, every child in these classes is learning French. They are taking extra work in nature study or extra work in art or in English. Every room is provided with a typewriter and the children almost unconsciously are learning to use the machine by the touch method. This is a surprising stimulus to their use of English, their punctuation, spelling, and capitalization.

Many people think that the teacher problem would be insurmountable, and they ask, "Where do you find the gifted teachers to teach the gifted pupils?" Such a question shows a wrong conception of education. It is true that we must have a special type of teacher but not so special but that we can find them among the teachers in any good school system. The main requirement is that the teacher should be willing to stand by and watch the children grow and develop, without wanting to do all the talking in an attempt to fill their heads with facts. I have likened the teacher of these classes to the life-saver on the bathing beach who does not attempt to save the lives of every person who is learning to swim but who is there in readiness

when anybody needs help. These children not only can swim but insist on swimming, intellectually. They need help when they happen to get in over their depth, and they need to have the best swimming holes pointed out to them. This the teacher does. She continually inspires them, gently but unobtrusively guides them, while they do the work that develops their own characters. Least of all is the teacher of these classes a police officer. In all the history of these classes, there has never arisen a so-called problem of discipline. The other day when a new teacher said to the group, "Now, get busy," a look of amazement followed by one of amusement came over the countenances of the children themselves. Such an order is never heard in these classes because it is never necessary. The children are always busy. They are getting something that comes the nearest to true education of anything that can be found in our entire school system.

THE EDUCATION OF YOUNG GENIUSES

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Methods employed by the parents and teachers of boys and girls who became, later in life, the most distinguished representatives of the human race suggest desirable objectives for parents and teachers of gifted children today. On the basis of extensive evidence, Dr. Terman states that "nothing has been found to warrant the belief that the superior attainments of the gifted children of today are in any considerable degree the product of artificial stimulation or forced culture."[1] This conclusion applies also to the superior attainments of historical geniuses upon the basis of whose recorded childhood achievement the present report is based.[2]

The superior attainments of 301 historical geniuses did not appear to be primarily the product of training for their brothers

[1]Terman, et al. *Genetic Studies of Genius; The Mental and Physical Traits of One Thousand Gifted Children.* Stanford University, 1925, Vol. I, 648 pp.

[2]The complete report prepared by the present speaker of findings from a biographical study of 301 young geniuses who became the most eminent men and women of the period from 1450 to 1850 will appear as Vol. II, *Genetic Studies of Genius: The Early Mental Traits of Three Hundred Geniuses.*

who had similar training did not in general show similar achievement. Where early achievement was most extraordinary however, in the case of John Quincy Adams, William Pitt, Benjamin Constant, John Stuart Mill, Pascal, Mozart, and Goethe—unique instruction was correlated with it. Unusual opportunity given to unusually gifted youths early released their extraordinary powers and developed congenial interests and habits of varied and sustained activity which served later in the achievement of unusual creative work.

Three types of training served in the case of the historical geniuses to release three types of superior achievement. The first type afforded adequate general and special training to individuals specially gifted in creative expression, namely young artists, musicians, and poets. Michelangelo was instructed from his twelfth year by the foremost artists and sculptors of his age; he associated in daily intercourse with the intellectual aristocracy of the great city in which he lived. Mozart was strictly trained by a superior musician, his father, from his fourth year. Goethe was taught by twelve excellent private tutors who represented almost as many nationalities, creeds, and political philosophies. He, too, associated in childhood with men who had thought and achieved.

The second type of training stimulated the development of general intellectual ability in individuals whose native mental capacity was of a high order, the young statesmen, scientists, and philosophers. Early progress was accelerated by suitable training; wide interests were cultivated and stimulated through adequate opportunity. John Quincy Adams was trained at home and abroad by excellent tutors; he was early sent on important missions and given weighty responsibilities in novel situations. Alexander von Humboldt was stimulated by eleven eminent tutors to early scientific observation and creative production.

The third type of training gave opportunity for the early development of unusual ability, not primarily intellectual, which was often combined with some special gift or interest. These children became great soldiers, religious leaders, moral or political reformers. William Ellery Channing was trained at excel-

lent schools and by his unusual parents so that he was ready to enter Harvard at fourteen. Farragut entered upon his naval career at seven and at twelve served successfully as commander of a captured enemy ship. Early and thorough practical instruction and experience were supplemented by early responsibility.

In none of the cases enumerated, as in none of the larger groups which they represent, does training explain achievement. Other individuals have received favorable early instruction without deriving such notable advantage therefrom as did these. Native ability evidently determined the extent to which opportunity was grasped, but where opportunity was greatest, a more complete, wide, and early unfolding of native ability became possible.

COMMERCIAL EDUCATION

FORD O. HARRISON, *Principal, Wells School, Canton,* Presiding

THE NEED OF GUIDANCE IN THE COMMERCIAL DEPARTMENT

EDWARD RYNEARSON
Director of Vocational Guidance, Pittsburgh

Guidance is not a fad; it is fundamental. Guidance is not new, it has been given ever since there were parents and children; what is new is "*conscious aim* deliberately planned for, and delegated to, entire teaching bodies and not left to chance, or to the zeal of a devoted few." Guidance is not a single act given only at a designated time or place in a child's life; it is a continuous process influencing the child from the cradle to the grave.

Vocational guidance does not mean (1) getting jobs, (2) vocational fortune telling, (3) developing life-career motives in twelve-year-old children, (4) following some theory of what ought to be, nor (5) even prescribing a vocation. It is not the object of vocational guidance to decide for young people in advance what occupations they should follow.

As stated in the "Report of the Committee on Vocational Guidance" to the Commission on Reorganization of Secondary Schools, "Vocational guidance is a systematic effort, based on knowledge of the occupations and on acquaintance with, and study of, the individual, to inform, advise, or cooperate with him in choosing, preparing for, entering upon, or making progress in, his occupation." Vocational guidance means, in other words, that the youth will be able to select his vocation more wisely and not haphazardly, by plan and not by chance. The slogan was given in 1912 by Miss Alice Barrows: "Vocational guidance is not guidance for a job but guidance for training."

All of these general statements tell in a terse manner that the courses of study offered by the high school will be thoroughly explained to the children and, as far as possible, to the parents before the children choose their respective courses. They have

a right to know why these various courses are offered, the real (not imaginary) differences between them, what each course prepares for, and the opportunities open to those who complete the various steps of the courses as well as to those who graduate. Where there is only one course offered, guidance is a simple matter; "take this or get out." This kind of guidance belongs to other days when the main object of the single-track high school was preparation for college. Today many of our colleges have changed their entrance requirements so that it is possible for a boy to prepare for life's work and at the same time gain admission to college. Wasn't it a strange attitude for a college to take when it practically said: "You may be prepared for life's work but you are not prepared for college," as though colleges prepared for life after this world? According to the teachings given to some of us there is need of guidance even for that life because there is a choice to be made. Seriously, whenever a choice is to be made, the child needs guidance. In one city in California a superintendent planned fifty-one different courses in the high school. How could the vast majority of inexperienced, immature children wisely select their courses in this maze without systematic, sympathetic assistance?

By whom should this guidance be given? No plan of guidance can succeed without the hearty cooperation of all of the teachers. True it is that all teachers will not be equally efficient or interested. Ruskin emphasized the importance of occupational information when he said, "No teacher can truly promote the cause of education until he knows the conditions of the life for which that education is to prepare his pupil." Many of our teachers need help, and the vocational counselor is the one to furnish much of the material and inspiration for this work. This immediately raises the question: Will not a guidance department cost more money? Yes, it will. However, if proper guidance will keep a greater number of children in school and for a longer period, if they make their choices of occupations more wisely and reduce the enormous cost and waste of labor turnover, if these children are better prepared for their work, and if they become happy and interested workers, should we hesitate to invest, not spend, some money? The more money and

time and thought spent in proper guidance of the children who leave school prematurely, the less will be the cost to society for correction, punishment, and mere inefficiency later.

From what has been said in a general way about guidance, you will understand that those children who choose the commercial course in our high schools have done so with more or less knowledge of the content of the course, with a possible analysis of their own futures for one or more of the many phases of commercial work, and with a general acquaintance with the opportunities that are open to those who finish any part or the whole of the course.

Guidance in the commercial department depends upon the objective of the department or school. The counselor must have these objectives in mind as he advises his individuals or groups. Broadly speaking there are at least three objectives: (1) Stenographers, largely composed of girls. These are usually pupils of high scholastic standing who have an accurate use of English and are quick and alert. (2) Business organizers. Boys usually select this division that through bookkeeping and salesmanship they may learn the business. In some of our cities this objective is called the high school of commerce, and is housed in a separate building. (3) In this group are often found those who wish a high-school diploma and do not want to study the mathematics and other difficult subjects of the academic course. Now this objective may be challenged, but every one knows it to be true. And why should there not be opportunity for those who will never use all of the subjects and yet who should get some training for the kind of work most of them will do. In every large commercial organization you will find a great variation in salaries and kinds of work.

Pupils should realize the many different kinds of positions in a commercial enterprise and should also know that the requirements for each of two different positions in the same firm may vary as much as does the work in two different firms. They should also appreciate the fact that within ten years after entering business they will be widely distributed according to ability, demand, and supply.

This naturally raises the question: how will each pupil select the particular field he should enter? Certainly he will not select his

course merely to be with a chum. You may smile at this statement, yet many of our pupils make their choices for this very reason (?). If during the first year in high school, especially in the eighth grade of the junior high, the pupils should all be required to spend a part of the year in the study of occupations, the choices would be made with better understanding of the requirements and opportunities.

Do not think that only one choice may be made and that that choice is final. No choice of life work is to be considered as unalterable. One of the chief purposes of the school is that there may be many opportunities to make choices. Many dormant powers have been aroused by the activities of the school. The school may be likened to a place where there are many contagious diseases. Some pupils seem to be immune to measles but take whooping cough. The pupils should be exposed to as many stimuli in school as possible so that all of their powers may be subjected to the call for development. As aptitudes reveal themselves there will be changes in choices.

Much of the success of the work of the counselor depends upon the analysis and classification of pupils. The intelligence quotient and the previous school record are comparatively safe guides. Also there are some commercial tests in typewriting, arithmetic, and other subjects that should be used as the pupil progresses. These will enable the counselor to check up the pupils. Frequently it may be found advisable to change a pupil from one division of commercial work to another. The other day, within four months of graduation, a pupil was transferred from the stenographic division to that of retail selling. The Edward A. Woods Agency of Pittsburgh was one of the first large business firms to test applicants and workers. In Mr. Woods' employ was a young man who was a failure as a typist, and was to be dropped but Mr. Woods said "I'll give him a test." The test showed that the young man could add columns of figures rapidly and accurately. He was transferred to the bookkeeping department with an increase in salary. Those pupils with low intelligence should not be deprived of all high-school education, but they should be given training in skill in the work which they can do. In many cases they will fill

positions where the work is monotonous. This work must be done and there are, in every school and community, persons who can do it and be happy. They could not do some of the other work, nor would they be happy in it.

Happiness should come through one's work and leisure. Joy in life depends so much on the breadth of view. This can be enlarged in the school, providing the teachers are not wholly concerned in making bookkeepers, stenographers, mathematicians, and scientists out of their pupils. The teacher must use these subjects as a means to teach and lead the child. Mastery of the textbook is only the means to and not the end of education. Our supreme task and opportunity is to lead the child to become actually all that he is potentially. Teach commercial employees and not merely commercial subjects.

Added interest will be created in the school subjects if the practical value of most of the subjects in our school can be shown. Many of our pupils return to school and say that they never realized that the work in arithmetic had any application to the work-a-day world. Get your problems in percentage out of the baseball scores and bond columns. The initials on freight cars furnish some good material for commercial geography. The investigation of department stores by Dr. Charters shows even the money value to the owners of our large department stores of politeness, courtesy, and good English on the part of the salespeople.

While revising the course of study for our commercial department in 1908, two thousand business men of Pittsburgh were requested to state the subjects where more emphasis should be given.[1] As you would think, more arithmetic, bookkeeping, shorthand, and typewriting were asked for, but by far the largest percentage of the replies stated that more attention should be given to English. The same questions with practically the same results had been previously submitted to the business men of Boston by Dr. Frank Thompson. Again, our courses of study must include those subjects that have an immediate as well as a deferred value.

If these boys and girls could get the spirit of President Eliot's "Life-Career Motive" in their school work, they would have an

[1]Rynearson, Edward. "Cooperation of the Business Men of Pittsburgh with the Commercial Department of Its High School." *School Review*, 18:333–38, May, 1910.

added incentive to master many of the school subjects. The impelling force of preparation for a definite calling accounts very largely for the fact that professional and evening students "study longer, better, and deeper. Teachers enjoy teaching in these schools because of earnestness of students with life motive. Progress is wonderfully rapid and gratifying." Again Dr. Eliot says: "Habits of listlessness toward studies, and laziness, too, may arise from failure to appeal to the life-career motive."[2]

One of the best ways to get the "life-career motive" while in school is to work under the half-time plan[3] during a part of the course. The small financial return may enable some of the most worthy to remain in school. They will at least have the experience of writing real letters, of handling checks or money, and of entering into real transactions. These actual experiences will add much to the value of the school work. A few may discover that they are unfitted for the commercial life. This negative guidance is just as valuable as positive guidance, as they may be able to change their courses and thus be prepared for another career. The actual contact with the latest in office practice may react in a favorable way upon the teachers. Are you prepared to believe that on account of the added interest and zeal pupils will cover almost as much of the textbook work as do pupils on full time? The relative value of this plan is illustrated by the students of a certain engineering school who work five weeks on a job and spend the next five weeks in school. Ninety-eight percent of the graduates of this school remain in engineering work, while less than forty percent of the graduates of a near-by full-time engineering school are in engineering work five years after graduation.

Following the careful guidance in choosing the course and in making satisfactory progress, there must be placement either by the school or by a central office. "Placement service is not a matter of 'job finding,' although this has to be done; it does not consist in setting up a psychological testing laboratory, yet

[2] *Proceedings of the National Education Association*, 1910. The entire address should be read and reread by every high-school teacher in the United States.

[3] *The School Review*, 27:533-44, September, 1919.

psychology must not be overlooked; it is not to be conceived of as merely 'an employer's convenience,' or an opportunity for youth exploitation. It is not an adjunct to charitable or social agencies, moral or juvenile courts, although we cooperate with them all. It is not a method of salvaging the public-school driftwood primarily.

"Placement service assists in the right sort of distribution and utilization of the product of our schools, and is essentially a service of adjustment and interpretation. It helps the youth to interpret himself to himself; to interpret the relations of past and future training to his job; to interpret a job ahead, the present, and his relations to employer, associates, home, and community."[4]

Does the responsibility of the school end when the pupil leaves or graduates from school? The brute world may forget its offspring when they begin to secure their own food. Humans are usually not so cruel. The child may not be adapted to the position by temperament or by training. A few heart-to-heart talks may enable the worker to fit into the position. Or the employer may not, does not, know so much about the child as the school should know. He may be able to make some adjustment. Or it may be necessary to change the boy's work entirely. Many of these misfits can be adjusted by the counselor or by coordination. The boy may be saved to his employer or to himself. Isn't this a conservation of men force? Does not the school owe this much of follow-up work to the community as well as to the boys and girls?

In this discussion we have briefly tried to show: (1) that children should be guided in the selections of the courses of study in the high school by their teachers and parents after due consideration has been given to school marks and intelligence tests; (2) that even after they have chosen the commercial course, they should be continually tested and counseled; (3) that the misfits should be transferred to subjects and courses better suited to their capacities, aptitudes, and interests; (4) that care should be used in placing the product of the school in order that the worker is so placed that his best powers are challenged and the

[4] *Vocational Guidance Magazine*, 4:222, February, 1926.

employer's interests are conserved; (5) that the young worker may still feel that the protecting arm of the school is about him as he makes progress in his position and that he must show his appreciation to the home and school by mastering the difficulties of the first step in order that he may go higher.

THE SCHOOL'S OBLIGATION TO THE DEMAND FOR BUSINESS TRAINING

C. W. Castleman
Director of Continuation Schools, Canton

The purpose of this discussion is not to acquaint experienced school people with something new in commercial education, nor to "show up" the teachers in our commercial departments. It is to cause these people to realize, from a consideration of observations in the field, just what is necessary in order that their daily efforts may build an everlasting monument in the lives and successes of commercial workers who will go out from our schools.

In our city of Canton we have two general types of commercial teaching in the public high school and in the commercial business college. The purpose of each type is to supply all the trained commercial workers that are required by the business establishments of the community. But why should any community need to support both types? This question applies to many cities in our state and other states. Primarily the public schools owe to our youth all the training that work in the business houses in the community requires of them. The taxpayers of the city should get sufficient value in return for the money invested in the public schools. Because of this investment by the citizens of any community it should not be necessary for any of them to pay out the extra money to send their boys and girls to commercial business colleges which increases the cost, to them, of commercial education.

Would our communities suffer any considerable loss by taking out the business colleges? Canton would—and you can judge for yourselves if other cities would. My answer to this question is given as a result of interviews with the manager of the Chamber

of Commerce, supervisors, and managers of the office workers in some of the largest establishments in Canton. For instance, the chief clerk in the offices of the Timken Roller Bearing Company told me that most of the new help she hired had completed business-college work after having completed the high-school commercial work, in order to get the additional practice and training that will adapt them to the conditions in industry. This chief clerk also stated that many new commercial workers lack the ability to spell and understand expressions used in conducting the business. In the offices of the United Alloy Steel Corporation I talked at length with the office manager and with one of the office supervisors on the subjects of the necessary training for commercial workers, and of the comparative values to industry of the high-school commercial department and the business college. He told me that the business college has been rendering a service which is now indispensable. In answer to the question, "Could the high schools do the same thing for you?" he stated that in the past he has been unable to get this service from the high schools.

In the offices of the latter company as well as in many other industries and stores, extra office help is needed at times to turn out extra work, such as advertising circulars, copies of form letters, addressing envelopes, etc. This affords ample opportunity to give practical office training to commercial students. Why shouldn't our high schools increase their value to the community and to commercial students by providing the needed workers on part-time employment, and by familiarizing these students with industrial conditions in order that they may be accustomed to the work and environment when they have completed their school training and go to work. In every community there is a demand for young commercial workers. These must be the product of the educational institutions of the community. It is the obligation of the public high schools to *fill the bill.* If they do not, then the commercial business college is the only means by which the demand can be satisfied. This situation can be fitly illustrated by a statement made by A. E. Winship in an article appearing in his *Journal of Education:*

"The elementary school should make boys and girls good; the high school should make them good for *something*."

The commercial teacher, with the proper qualifications and a vision of his responsibility, can do more to broaden the range of service of the commercial department than anyone else connected with the public-school system.

THE TEACHER AND THE CURRICULUM

FRANK P. WHITNEY
Collinwood High School, Cleveland

Just now we need teachers with a curriculum consciousness. Subject-matter may be selected and the curriculum constructed by experts and handed over to the teacher, but neither subject-matter nor curriculum in such a case is likely to be real. The teacher also must be an expert. The teacher must share in the selection and organization of the material of instruction. We delude ourselves when we imagine that curriculum building is just another problem of management.

Having discovered how vital and intricate a matter curriculum-making is, how much it demands which the teacher is not prepared to give, we call in the expert. We will speed up the process and show the business minds on the board that, when it comes to putting over a new program, industry has nothing on the school. Vain hope destined only to end in disappointment! Let us be under no illusions. The teacher, as ever, is the crux of the whole matter.

The more able the expert, the greater the skill and research developed, the wider will be the gap between promise and performance as long as the expertness, the skill, and the research are outside of the classroom. It is, alas, so easy to forget that subject-matter and curriculum have only an imaginary existence apart from the teaching process. The question is not, are experts and managers needed, but, are teachers capable not only of using their results, but of cooperating in securing them?

How inescapable the conclusion that here as elsewhere the answer is only in more and better-trained teachers. Only by

setting up the specifications of the new teacher can we be assured that the necessary training will be conceived and in time provided. Only so can we hold any advanced positions in the curriculum field.

The new teacher preparing to run with joy this new curriculum will first of all lay aside many weights, the faculty psychology, the doctrine of formal discipline, the encyclopedic conception of subject-matter, the static view of education and of life. He will accept and apply the laws of learning, the demand for purposeful activity on the part of pupils, the new conception of interest and effort. He will know where to look for subject-matter. He will understand its relation to the curriculum and to the pupil, and the relation of learning to life. He will be able to recognize changed conditions when they appear and to redevise matter and method accordingly. He will not fall into the fatal error of identifying technique with objectives. He will discriminate between glib recitation and real learning. He will know both culture and utility and how to create the situation where they meet. He will appreciate the manifold character of educational outcomes and the intimate and inevitable relationship between the material and the method of instruction. He will appreciate the dynamic character of the great society and of education in that society. He will take a genuinely scientific attitude toward teaching and specifically toward subject-matter and pupils' disabilities.

COUNTY SUPERINTENDENTS

J. H. Grove, *County Superintendent, Upper Sandusky*, Presiding

INSTRUCTIONAL ASPECTS OF EFFECTIVE SUPERVISION

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The functions of the county superintendent of schools, broad and varied as they are, may for our purpose this morning be roughly grouped as administrative, supervisory, and clerical. The superintendent must have a broad perspective of education. Results depend upon the success with which all the factors making up the system are brought into position by the superintendent. Intelligent administration means intelligent distribution of effort and emphasis among the different functions. Observation shows that some superintendents emphasize administrative functions at the expense of others and interpret administration to include petty duties which make of the superintendency a high-class messenger service. Others become enamoured of the system, conciseness, and objectivity of the clerical side of the work and make of it an end instead a means. On the whole, the supervisory functions are those most apt to be neglected.

Superintendents of rural schools throughout the United States tend to emphasize "administrative" functions. The reason is elusive—perhaps the immediacy of the demand of things administrative in character, perhaps the lure of contacts with large things that such duties include, a desire to see the wheels go round; perhaps it is because this is after all the spectacular part of the superintendent's work, the place where results are tangible and easy to point out to the man on the street. What so alluring as to say, "These buildings, this equipment, and this salary scale are the results of my efforts." One should not be understood as underestimating the importance of these matters. It is noticeable, however, that the ordinary superintendent points with pride to physical equipment far oftener than to the educational achievements of the pupils in his system.

There is, too, the lure of the commonly considered "higher" functions that permeates the whole educational system. No one who observes school systems can fail to realize how, in the opinion of teachers, principals, and school officials generally, the junior high-school teacher enjoys a status above that of the elementary-school teacher, the high-school teacher one still higher, and so on throughout normal school, college, and administrative positions. Honors and emoluments apparently have a close connection with the grades taught or the title of the position. Promotion and professional recognition "follow the flag." There is a regular line of ascent from lower to higher grades, from teaching to administrative positions.

That instruction is the supreme function of administration needs no explanation. We may say q. e. d. without argument. All administration must be judged ultimately in the light of results in terms of instructional technique and quality of achievement. As I see it, the superintendent's most difficult problem in securing instructional supervision is with himself. It means shifting the emphasis from administrative problems to the quality of instruction. The intelligent distribution of time, of interest, of energy, is essential. Ability, training, and experience must follow more than one line.

One hesitates to speak here of that part of the superintendent's work commonly known as community work lest one be misunderstood. Community participation, community popularity (so justly compensating to superintendents), rightly considered—are by-products of educational leadership. Their incentive is rooted in the development of a good school system. There is a temptation to think of community popularity as an end in itself. To the professional administrator it is not independent of the larger objective, school efficiency.

What is instructional supervision? We have been much concerned with some of the things it is not. Supervision is difficult to define except in large and general terms. Broadly interpreted, it covers all that contributes to good instruction. Effectiveness, however, means some differentiation and analysis of supervision as a separate function, at least in understanding

if not in practice. Supervision is not inspection, it is not visitation, it is not criticism alone, nor even appreciation alone. It includes all of these. It proceeds, if it proceeds at all, because: (1) A definite plan or program considers its place in the system and the needs concerned with physical conditions, staff, distribution, and the like. (2) There is a supervisory program. (3) Supervision engenders the confidence of teachers, children, and patrons. (4) It is recognized as a joint responsibility of supervisors and teachers, for neither *alone*, is to blame for failure, neither *alone*, is to be credited with success. (5) It ultilizes resources rather than overcomes defects. This does not mean that there are none of the latter. It means that, primarily, supervision is a developing and discovering process.

I am often asked if good supervision can be recognized. By all means, at least as easily as good teaching. Many of its results, like those of all good teaching, are long range shots, but, if carried on from professional point of view, it is tangible, analyzable, measurable, and recognizable. A good supervisor knows this and takes stock of his achievement as regularly as a merchant takes stock of his goods. I do not believe that the time has come when we can define instructional supervision. I like this description, "Instructional supervision is the direction, inspection, diagnosis, and improvement of teaching, and the leadership of teachers in service, in their individual professional growth, and as a group, toward unity and harmony in work and spirit."

SUPERVISORY PROGRAM FOR THE CUYAHOGA COUNTY PUBLIC SCHOOLS

A. G. Yawberg
Superintendent of Schools, Cuyahoga County

Supervision of school work is a necessary and essential part of our educational program today. How best to organize a supervisory program for effective supervision is the first important problem a superintendent must face when given the opportunity to do so. It is the purpose of this paper to show how the super-

visory program for the Cuyahoga County, Ohio Schools was organized in 1921 when the change in the County Supervision Law gave opportunity for real supervision. Before stating the type of organization and the actual plan of work, a brief statement of the underlying principles observed in developing this organization should be briefly stated.

Objectives

Broadly there are four chief objectives which must be considered in the field of actual *schoolroom* supervision. They are: (1) Supervisors and teachers must recognize and establish certain definite goals of attainment in all subjects. (2) Help and direction must be given in the attainment of the goals established. (3) Results must be tested and checked in order that attainment of goals may be definitely known. (4) Cooperation must be developed among teachers and supervisors.

Statement of Principles

Every superintendent must be guided by well-understood principles, and his suggestions and activities should be in accord with well-known methods. Definite aims or goals are necessary. As some one has so well said, "There is small consolation in being told that we are on the way and moving fast if we do not know where we are going." It might be as appropriately said, that we are just as much at sea if we do not know the point of our departure. Points of reference are just as necessary in the field of supervision as in surveying, and no surveyor of land ever attempts anything until his point of reference is definitely established. It becomes necessary, therefore, to definitely set forth the principles that shall govern as well as the methods that will be followed in our program of supervision. They are: (1) self-activity, (2) maximum participation, (3) genuineness in situations and materials, (4) variety and proportion, and (5) novelty and surprise.

Principle of Self-Activity

No teacher can be made better. He must grow better. Supervisors are prone to be dogmatic. It is easier to give orders

than to lead the teacher to discover better methods. There may be times when orders should and must be given, but such times are exceptional. Neither should the supervisor attempt to tell or to demonstrate to the teacher every new step along the way. The art of teaching is as much a process of education for the teacher as his work should be with the pupils. There can be no more reason for believing or acting upon the "pouring-in process" with the teachers than with pupils. Education is a development. There can be effective impression without appropriate expression. Therefore, supervisory suggestions must aim at and arouse self-activity. This is often an indirect method, usually takes longer and calls for patience and skill on the part of the supervisor, but it is the only way to secure permanent results.

Principle of Maximum Participation

This principle grows naturally out of the principle of self-activity. We can become interested to the extent of making real application only when we contribute something of our own to any program. It is a mistake for school administrators and supervisors to attempt to determine all goals of attainment for the schools, to lay down rules of procedure in attempting to reach these goals, to make plans for checking results, or even to attempt to secure the cooperation of teachers without giving the teachers a real and vital part in developing this whole program. Even the supervisory program itself must be such as not only to allow, but to invite, teacher participation in its development and application.

This principle can be operative only when there exist or are developed common knowledge and common points of view on the part of both supervisor and teacher. It is, therefore, necessary to bring teachers and supervisors into close working conditions. One of the real supervisory problems is how effectively to bring this about. There has been entirely too much aloofness both on the part of teachers and supervisors, but especially on the part of supervisors. Interrelating conference groups for specific purposes must be organized in which supervisors and teachers

meet on a common level, giving each individual equal opportunity and authority to contribute and to determine the processes and goals of public education.

Principle of Genuineness in Situations and Materials

Superintendents and supervisors must always take into consideration the conditions under which, and the materials with which teachers must work. It is very easy to work out programs and to suggest methods for ideal conditions which rarely if ever exist. Ideals as to conditions and materials every teacher and superintendent will and must have, but suggestions must be made with the actual situation as well as these ideals in mind. All supervision should be done under the most natural, real, and genuine circumstances.

Principle of Variety and Proportion

This is a principle that is so often violated and with such serious results that it seems best to place it among the other important principles. Every teacher's work must have variety both as to material and method. Teachers must always be on the alert to avoid getting into a rut. This is especially true of departmental teachers who specialize in one subject. In such cases variety of application and material is absolutely essential. This is equally true with supervisors of special subjects. Such supervisors often get the idea, or at least give the impression, that they think nothing else matters if only their subject is well taught. They often lack a sense of proportion as to the relationship or relative values of the several subjects taught. This is sometimes true of a general supervisor. For general supervisors often like one subject very much more than another and give it much more attention to the very great detriment of other lines of study or work. This always gives a one-sided emphasis to school work and may harm large numbers of pupils. Every supervisory program must seek to maintain the proper proportion in all lines of work and present suggestions with enough variety to keep up the interest of the teachers.

Principle of Novelty and Surprise

This principle is of valuable assistance in arousing new interests and in creating new points of view. Both of these results are necessary if the work of the teacher is to be kept on a high plane. Care must be exercised, however, not to overwork this principle. An occasional supervisor resorts to it so much that teachers become more interested in watching how he works than in following the suggestions made. The principle of variety and proportion should always be kept in mind in applying the principle of novelty and surprise.

Technique of Method

It has been said and generally accepted that the greatest weakness of supervision is its proneness to be largely a matter of routine and detail. Superintendents have too often allowed themselves to be buried with a multiplicity of minor details and devices. Routine and details must be cared for but should not be given too much time and attention. That they have so often done so is because the superintendent has not clearly in his consciousness definite principles and methods by which to accomplish the larger goals in education. The basic principles underlying such a program have been set forth. It is just as important that the general method of procedure should be understood. General methods fall under three heads:

Destructive-Constructive Method

This method is discussed under separate heads by some writers, but that is not in accord with the best practice. Destructive criticism should never be made unless accompanied by constructive suggestions. Formerly and even yet some superintendents set themselves up as inspectors, taking the stand that their chief business is to point out errors and failures. They contend that it is the teacher's business to know and to know how and that if he is lacking in any way, a new and better teacher must be secured. This is a narrow and outgrown view and would not be mentioned here except that it is still practiced. Teachers need, want, and appreciate helpful criticism. They do not object to the dis-

covery of their bad practices if a way out can be suggested. Because the suggestion always accompanies the criticism, this method is called the destructive-constructive method. It points out and keeps out difficulties. It should eliminate failures insofar as that is possible.

Appreciative Method

A supervisor should recognize and indicate the good points in a teacher's work. This applies not only to recitations, but to all school activities under the teacher's direction. Of course in doing this the supervisor must be sincere and frank. Flattery is exceedingly harmful. If the teacher is at all shrewd, he recognizes it and loses faith in the supervisor. If he does not recognize it, he not only persists in but usually exaggerates his poor methods. But if the supervisor is sincere and actually recognizes good work, the teacher appreciates the recognition and usually has a more open mind for constructive suggestions. It has been said that "nothing succeeds like success." It may equally well be said that the appreciative method capitalizes success.

Stimulative Method

This is undoubtedly a most important method. It is closely related to the principle of self-activity. Without its application, growth and development in the educational field would practically stop. Its use is the real test of the ability of the superintendent or supervisor. He may be a past master in using the destructive-constructive or appreciative methods, but if he fails to use the stimulative method he fails to promote growth. His school will soon fall behind because it can do but little more than stand still. This method indicates the direction of growth and encourages conservative experimentation. Its use is the essence of leadership. Its practice has brought about improved courses of study, new methods, new devices, in fact every real improvement in public education. Every visit of a superintendent or supervisor should leave a teacher stimulated to action in the attempt to solve some new problem or reach some higher goal.

Organization

While it is important to understand the principles according to which action is taken and the methods by which such action is applied, it is just as important to lay down a definite program of action. Theory we must have, but until it is translated into effective action, nothing is accomplished. The following program has special application to this county. It is not ideal in many respects, but under the circumstances and conditions now extant it seems to offer the best method of supervisory procedure.

1. The County Superintendent
   (a) Duties largely administrative and executive.
   (b) Visits teachers for specific purposes and information but gives most of his professional time to teachers' meetings and the development of professional leadership.

2. Five Assistant County Superintendents
   (a) One has charge of research and testing. His duties are largely diagnostic. He finds the weak spots in results. His work is largely with and contributes to the effectiveness of the supervisory assistants and the local superintendents and principals.
   (b) The junior and senior high-school supervisor gives four days each week to actual classroom supervision. One school day and Saturday morning are spent in the office. At present the supervisor has 155 teachers.
   (c) Three elementary supervisors. While the junior and senior high-school supervisor covers the whole county of 332 square miles, the county is divided into three parts for elementary supervision (grades 1–6 inclusive) giving each supervisor about 90 teachers. The three elementary supervisors are women especially trained for that work. They also give four days each week to actual classroom supervision. One school day and Saturday morning are spent in the office.

3. Three secretaries (Stenographers are employed, though one gives about half of her time to the work of the County Attendance Officer.)

4. Meetings are held each month with all local superintendents and district principals in the County Office. So-called "4740 districts" are given exactly the same attention and help as other districts.

Scope of Work

A supervisory force is thoroughly justified in taking plenty of time to see that the teaching force is chosen and placed with c[are]. It has been said that when this task is well done, the best

half, if not 75 percent, of the task of supervision has been accomplished. However, the tasks ahead are still vital. The best teaching force in the world, if it fails to grow or works at cross purposes without direction or common interests, will soon disintegrate. Stimulation, growth, goals, methods, checking of results, cooperation must receive constant attention. Of first importance in this field is the Course of Study.

Course of Study

Providing a strong and helpful course of study is the first duty of a supervisory force. This does not mean that the supervisory force will set down its dictum in a course of study and hand it over to the teachers. Courses of study provided in this manner never succeed for long. A supervisory force must know certain underlying principles, but this is really only the skeleton. To be successful a course of study must be alive and growing. It must be subject to certain varying adaptations. Every year ought to see growth and development, a sloughing off of old worn-out material, and the addition of new stimulating material or method. The whole teaching force can assist in developing a course of study if the directing forces know how to give them opportunity. Because a course of study is and must be such a growing organization of material and method, it is difficult to provide it in printed and bound form and keep it up to date. Some practicable way should be found to provide it in loose-leaf form. But whether this be done or not, constant attention to the growth and adaptation of the course of study by the whole teaching force must be given. It is the duty of the supervisory force to give direction to this.

The course of study should be a daily handbook for every teacher. It is expected that the teacher will know and apply every usable suggestion made in the course of study relative to his work. The work in the schools will be checked up in its relation to the suggestions of the course of study.

Supervisory Handbooks

If supervision is to be effective both supervisors and teachers must have a basis of common knowledge of what each is to ex-

pect of the other. So important is this that many authorities call it a cardinal principle. Too often it is taken for granted that this common knowledge is understood by both supervisors and teachers when they assume their duties. In most instances they have read or studied the necessary material, but the use of it has not become habitual. This common knowledge must become "working capital" and not "hidden treasure." For this reason it was felt best to provide the most vital and necessary part of this common knowledge as to method and classroom procedure in condensed handbook form. Eleven such brief booklets including this one, have been provided. The best thought of the day has been brought together in each subject in such a way that the teacher can get it in a short time. For those who wish to go into any subject more thoroughly, references to the latest and best books on each subject are given. It is believed that by this means the effectiveness of our supervisory efforts will be multiplied many times.

Definiteness is another quality that should characterize all supervision. Too often it has been lacking and teachers have secured little effective help from it. Too many supervisors have been "good fellows" but poor supervisors. Supervision must be something more than "patting on the back," figuratively speaking. These handbooks will help to make our work definite and specific. There will be nothing mysterious about how we are to proceed. Every teacher will know what to expect. If results are not secured it will be easy to place the responsibility. Each teacher will have for daily use, eleven handbooks which are prepared under the following titles:

Self-Improvement of Teachers
Daily Program of Studies
Lesson Planning
Skill in Questioning
Skill in Making Assignments
Supervised Study
Proper Use of the Textbook
Skill in Developing Initiative
Skill in Motivating
Individual Differences among Pupils
Program of Supervision

Classroom Supervision

With a course of study and other supervisory helps provided, the next important consideration is actual classroom supervision. Supervision cannot be accomplished merely by sending out literature from the office. Such literature may help, but its use and application can be made effective only when common understanding and feeling relative to actual conditions exist between supervisor and teacher. This makes actual classroom supervision necessary, which includes much more than observation of the recitation work. The supervisor will have learned as much as possible relative to the personal equipment and social and professional equipment of the teacher before visiting the school. His first efforts will be directed toward mentally checking up on these points as well as on the management of the school. For the best suggestions as to what the superintendent will expect to find in relation to the organization and discipline of the school consult Wait's *Practical Problems of the School.* The teacher's lesson plan should be easily available or so evident in the teaching that the supervisor will have no trouble in recognizing the method as well as the aim. The recitation will be judged in accord with the principles set forth in the various supervisory monographs. Immediate results will be checked. Ultimate results insofar as possible will be checked by other means. Thus teachers will be observed in their work with the "Teacher Rating Forms" as a basis.

Length of visits.—There are occasions for short visits for specific purposes, but in general, visits will be long enough to observe complete recitations except where recitations are short, in which case a visit may cover three or four recitation periods. Visits for only a part of a recitation period except for certain purposes following longer visits are seldom of much value. A teacher may have splendid discipline, may know and follow all of the best methods of procedure, may be an unusually good questioner and yet fail to get results, because he fails to make good assignments. A supervisor even if he heard most of a recitation but left before the assignment, would be unable to suggest help where needed.

Regular order to be followed.—Teachers are not expected to change the order of exercises or put on any special demonstration for the superintendent except there be some special reason which both understand. Visits by superintendents must disturb the regular work of the school as little as possible. Teachers may if they observe it, speak to the superintendent but should show no unnecessary concern. It always shows good training and spirit if after respectfully noting the entrance of the superintendent or visitor, the pupils continue their work in the most natural and matter-of-fact manner. Some pupil should provide the superintendent or visitor with a book giving directions as to the lesson. Many teachers appoint certain pupils each week to take care of such matters and other specified routine. It shows exceedingly poor control and discipline if pupils stare or unnecessarily giggle when visitors or superintendents are present. However, at such a time no pupil or teacher should hesitate to do just what he may do on other occasions. It is bad practice and always noticeable when there is an attempt to put on special manners for any occasion.

Suggestions to teachers.—Seldom is it advisable for a superintendent or supervisor to make suggestions to a teacher before the school. They should never be made if the school would be likely to consider them critical. Neither should the teacher ask for suggestions in the presence of his school. There are occasions when a superintendent can, by making a few suggestions either before or to a school, greatly strengthen the standing of the teacher in the school. When this is possible it should be done. Sometimes suggestions will be made to the teacher at a vacant period, at an intermission, after school, or at the superintendent's office. The superintendent will make a written report of each visit, one copy going to the local superintendent or principal and the other to the teacher. In these reports an attempt will be made to call attention to both strong and weak points. These reports will be followed by conferences.

Many superintendents are opposed to written reports and suggestions to teachers. It is our conviction that it is the only fair and effective way to make suggestions. It compels the

superintendent to be definite and certain of his ground. It also compels him to have clearly in mind all the underlying principles and methods of supervision as well as teaching practices. In other words, it compels him to work always on a high plane. It is equally fair to the teacher. She has a right to know specifically what suggestions the superintendent has to make. It is much less likely to lead to misunderstandings. Verbal suggestions especially if critical are so often misunderstood as to make them sources of more trouble than help.

Teaching by the superintendent or supervisor.—The superintendent may on occasion teach the school while the teacher observes. Rarely, if ever, should this be done on the spur of the moment either at the request of the teacher or upon the supervisor's initiative. The superintendent being unprepared for that particular lesson or class, no matter what his general experience, cannot do his best work and may accomplish little from the standpoint of the teacher or pupils. Moreover, as often happens and as should never happen, the class feels that he is teaching either because he has lost faith in the teacher or wants to show off. In one case the teacher is harmed, and in the other the superintendent has lost standing. When such teaching is done it should be arranged for with a clear understanding on the part of both teacher and superintendent as to the reasons for it, and in such a way as to prevent the class from losing respect for either party, or from being encouraged to make individual comparisons.

Demonstration Teaching

This is one of the effective and accepted ways of illustrating methods or types of teaching. When several teachers under a superintendent desire instruction or help in some particular way this is often most easily and effectively done by planning demonstration teaching such as is provided in the training classes at normal schools. Such teaching should be arranged under conditions as nearly normal as possible. Pupils should not be specially prepared for the demonstration and insofar as possible, should be kept from knowing that they are taking part in an exercise of this kind unless the exhibition is to be an illustration of results.

For most purposes the number of teachers in an observation group should be kept small. Ten may be considered a satisfactory number.

By the superintendent or supervisor.—As a means of instilling confidence and of developing a spirit of mutual helpfulness between supervisor and teacher it is in most instances best for the supervisor to do the first demonstration teaching. This should be done in a business-like way without any attempt at show or parade. The purpose for which any demonstration is given must be clearly outlined and understood by both teachers and supervisors. In such teaching the supervisor tends to ignore everything except the particular purpose and to exaggerate everything that contributes toward it. This should be avoided. Every recitation should be carried forward in a well-balanced way from beginning to end. The assignment should not be neglected even though the specific purpose of the demonstration is to focus attention upon the methods of questioning.

By the teacher.—No matter how skillful a superintendent, the best demonstration is often given by some teacher in the system. Despite all that can be done to promote mutual confidence, teachers are prone to feel that the supervisor does not fully appreciate all of the actual problems teachers must face, and so they have occasional mental reservations as to the practicability of doing as a part of the schoolroom routine, what is sometimes demonstrated. But when one of the teachers actually gives such a demonstration illustrating his regular work, it takes a firmer hold on their feelings and consciousness. The spirit of cooperation and mutual helpfulness is promoted by having teachers do this work. On this account, arrangements should be made whenever possible to have teachers demonstrate any work in which they are more than usually proficient. If the teacher is inclined to be self-conscious or embarrassed, it may be well to have only three or four in the first observation group, increasing this number after the first or second demonstration.

Discussion on demonstration work.—All observation groups should be required to keep brief notes. After the demonstration, a full, free, frank discussion on the merits and demerits of the

whole procedure should be had. Except in rare and unusual circumstances the demonstration should not be interrupted to ask questions or to make explanations, especially when given by teachers. One or two should be designated before the demonstration begins to lead in the after-discussion and give a summary of their views of the strong and weak points in the work. Care must be taken not to allow these discussions to become petty or to dissipate themselves on unimportant side issues. The outstanding purposes and results of the demonstration must ever be kept uppermost.

Teachers' Meetings

One of the most effective ways of improving teaching is through teachers' meetings. General teachers' meetings for any one unit or contiguous groups should be held at least once each month. Such meetings will deal with the broader purposes and objectives affecting all teachers in the group. Special group meetings may be held oftener at regular or irregular times as may be advisable but should always be carefully planned. No superintendent can do efficient classroom supervision who has not laid the foundation for it and created the proper mental attitude toward it through such meetings. This is generally accepted, yet large numbers of teachers' meetings are flat and miserable failures, sometimes because teachers are not given, but generally because teachers do not assume, responsibility in making real contributions to such meetings. Teachers' meetings should be planned in accord with the principal objectives for such meetings or the broad general purposes which are to develop breadth of vision and definiteness of purpose. The principal objectives are: (a) professionalization of the group, (b) integration of the corps, (c) agreement upon methods of instruction, (d) understanding of supervisory program, (e) assistance in the growth and development of the course of study, (f) participation in extra-curricular activities, (g) agreement upon disciplinary and administrative regulations.

Professionalization.—This is not the vague term it sometimes seems to be. Very definite considerations are included within its scope. It is important that every teacher and superintendent

have this clearly in mind. These attributes are given first consideration in teachers' meetings, because they lie at the very foundation of all the teacher is and does in his work both in the schoolroom and outside. The chief means of developing the profession are as follows: (1) development of conscientious adherence to a code of ethics, (2) desire for professional growth, (3) attendance in some recognized summer school once every three to five years, (4) development of educational leadership, (5) development of teaching corps morale, (6) agreement upon methods of instruction, and (7) an understanding of the aims and purposes of educational tests and measurements. In our experience in applying the above plan for five years, we have had most gratifying results.

ORGANIZATION FOR EFFECTIVE SUPERVISION, ATHENS COUNTY

H. R. McVay
Superintendent of Schools, Athens County

Area, 487 square miles. Population, 1920 census, 50,430. Improved roads, 175 miles; unimproved roads, 830 miles. Tax duplicate of County School District, $28,451,315.00. Highest amount per pupil in any district (Ames Township), $5,212.00. Smallest amount (Buchtel Village), $1,038.00. Lowest tax rate for schools in any district (Albany), 9.65 mills. Highest rate for schools in any district (Jacksonville), 20.35 mills. Number of local school districts, 25; all receive State-Aid. Amount of State-Aid received by Athens County last year, $18.30 for each pupil; this amount is little more than half the amount received by several other counties.

Table I. School Situation in Athens County

Schools	Number of Schools	Number of Teachers	Number of Pupils per Teacher	Total Number of Pupils
8—10 rooms	6	54	38	2,032
3— 6 rooms	15	57	32	1,781
2 rooms	20	40	31	1,229
1 room	90	90	21	1,913
High schools	15	56	22	1,211
Special music teachers		6		
Total	146	303		8,166

Previous to the law of 1914, few districts of Athens County had supervision of any kind. For nearly one hundred years each little one-room school had its own board of *three directors*. Usually each of these directors had a son or daughter who wanted to teach, and the school year was divided into two or three short terms so as to give as many of them a chance as possible. All recent legislation has tended to break up this provincialism and nepotism.

No wonder that, in many communities, the county superintendent has been considered an intruder and his reception has been anything but cordial. Even yet it is necessary for him to win his way into the hearts and confidence of the people in many backward localities. These communities bitterly oppose the state's requirement that their sons and daughters must have high-school and normal training before being permitted to teach. They object to the attendance law and the eight-months term. They object to the minimum salary law even though the State-Aid be furnished to pay it.

Rural people are naturally conservative, and in older communities where isolation is more complete, it is to be expected that people will cling longer to their many local school districts and the one-room schools than will the people in the newer and more favored communities.

So long as the twenty-five local boards of education of Athens County are vested with most of the legal authority in their several districts, the administrative duties of the county superintendent are multiplied many fold. Administrative duties are always increased in any county where there are a number of "State-Aid" districts. Here the superintendent is intermediary between the local boards and the director of education. In such districts he becomes responsible for the budget and all the financial transactions of the district. While it is recognized that the superintendent must be the general administrative head of his county's educational system, in a large county he can accomplish little without help to carry out his policies.

In Athens County two well-qualified and experienced men are employed as assistants between whom the county is divided

geographically. A woman, trained and skilled, assists with the beginning reading and other early grade work. An efficient attendance officer works full time. A stenographer-secretary who works longer hours than any other secretary in the city is of inestimable value to the organization.

The two men assistants help with the administrative work and frequently meet the local boards throughout their territory. Yet it is always kept in mind that the promotion of efficient instructions is the chief end of all supervision as it should be the ultimate aim of any school system. To accomplish this aim the superintendent and each assistant visit the schools and assist the teachers. They test the pupils and manage their promotion and classification. They meet the teachers in groups and in larger gatherings. The County Institute held the four days immediately preceding the opening of the school in September is largely a business session where the organization is effected and the work of the ensuing year is outlined.

ORGANIZATION FOR EFFECTIVE SUPERVISION IN FAIRFIELD COUNTY

J. F. Bemiller
Superintendent of Schools, Fairfield County

The Fairfield County School District is made up of twelve consolidated village schools, one two-room school, two three-room schools, one four-room school and sixty-four one-room schools, or a total of one hundred and thirty-six elementary and fifty-six high-school teachers. Of these, forty-four teachers are under the direct supervision of the county office. The school enrollment is 5,119, of which 4,169 pupils are in the elementary grades and 950 in the high school.

This program is not the result of reorganization but is based on conditions as they were found four years ago when the writer became county superintendent. The twelve "4740" superintendents constituted the supervisory staff. Of course each one gives only part time to supervision.

The data asked for on reports and the use made of them are impersonal factors which are effective instruments in directing classroom activity. All monthly reports are made to the superintendent in charge who in turn files them at the county office. The same thing is true with bi-monthly health reports. Data from these are summarized and mailed back to each teacher and to members of boards of education. Data on pupils of permanent value are recorded on accumulative record cards.

The teachers' standards of attainment are affected by an extensive use of uniform tests for grades five to twelve inclusive. In an assembly of the high-school teachers during the teachers' institute the type of examination lists was decided upon. They were to consist of one organization question, three discussion questions, and one multiple-answer type of ten parts. It is self-evident that these tests affect the classroom teaching and testing. It is a consistent practice to "follow-up" all tests and examinations by remedial endeavor.

County-wide events are used to motivate classroom instruction. Although the competitive phase is present it is minimized as much as possible in the effort to develop social intercourse and group activity. These are practically the same as those used in other counties. The highest type of competitive program yet used is the music contest. These programs draw the most appreciative patrons and are gratifying in every detail. As a part of the county field and health day, blue ribbons are awarded all pupils attaining a high standard in their health work.

The literary work is motivated by arranging that schools exchange programs two times each year. The visiting school renders its best program while the visited school acts as host, affording opportunity for social intercourse and incidentally engendering a friendly feeling among the people of the different communities.

In making any program of supervision effective, much depends on the attitude of the supervisor and of the teacher toward the pupils. In Fairfield County special attention is given each fall to retarded pupils and to repeaters. Some form of probationary promotion is used. This year of three hundred twenty-seven

placed on probation, two hundred eighty-nine, or 88 percent, made good in the higher grade. This does not mean the exceptional pupil is overlooked. During the three years preceding the present year, thirty-seven pupils received double promotion. Thus with some special attention given this matter thirty pupils will make double promotion this year.

Pupil participation is persistently urged. This has resulted in a changed type of classroom procedure in instruction and recitation. A County Student Council has been organized with local councils. Six high-school papers are published monthly. The high-school pupils select their courses in the spring and the classes are organized for the following term.

The supervisor helps the teacher improve in service by visiting their classrooms and giving constructive suggestions or demonstrations. These visits should be followed by small group conferences for the purpose of further demonstrating and discussing remedial measures.

Unless teachers are led to do some constructive study in their field of interest little improvement will be effected. Thus an opportunity is given teachers to organize as special committees. For the past two years curricular construction for grades seven to twelve inclusive has been the common purpose.

No program will execute itself, neither will it formulate itself, nor should it be formulated by the county school head. The writer, after arranging a tentative program of supervision, holds personal conferences with each of the county school heads with the purpose of presenting his program to them for approval and at the same time receiving their suggestions which are incorporated. Thus a program is formulated.

This is followed by conference of each superintendent with his teachers preliminary to opening of school. Every teacher has the right to receive detailed instruction as to what is expected of her. Throughout the year small group conferences as well as county-wide meetings of teachers are arranged. These meetings are well planned with a definite purpose realized by all. The entire program is kept moving by the means of monthly meetings of the county school heads.

ORGANIZATION FOR EFFECTIVE SUPERVISION IN BUTLER COUNTY

JOSEPH W. FICHTER
Superintendent of Schools, Butler County

The type of organization for supervision maintained in Butler County is the same as that instituted by the Reorganization Code of 1914, except that there are now three assistant superintendents instead of four. The county is divided into three supervision districts, with the following distribution of boards of education, high schools, and teachers among the three assistant superintendents. Superintendent A has nine boards of education, four high schools, and fifty-two teachers; B has eight boards of education, seven high schools, and fifty-five teachers; C has seven boards of education, two high schools, and fifty-three teachers.

The Butler County Board of Education maintains the type of organization under discussion here because it believes it is the most effective and most economical. Efficiency depends upon fixing responsibility for results and giving the responsible person authority to meet his responsibility. The city-school systems are superior to county systems in this respect. In a city system, there is one board of education for the entire district which leaves to the superintendent the administration and supervision of the schools. He works with one board of education in the performance of his duties, whereas in Butler County, for instance, the county superintendent must work with twenty-eight local boards of education in addition to the county board in the discharge of these same duties. It is physically impossible for the county superintendent to be in close enough contact with so many boards of education to cause the boards to depend upon him to select teachers, determine the course of study, choose the textbooks, and supervise the methods of teaching, which are properly the functions of the superintendent. It is possible, however, for the county superintendent to be represented at all meetings of local boards of education by three assistant superintendents.

In Butler County the administrative heads of the high schools are designated as principals. They are not held responsible for the supervision of any instruction, but they are the adminis-

trative heads of their schools. Thus the assistant superintendents can confine themselves to the supervision of instruction, and consequently there is no tendency to neglect supervision on account of the pressure of administrative duties. Furthermore, under this plan of supervision, the county board of education feels justified in employing highly qualified supervisors, since each supervisor has under his direction a much larger number of teachers than would be the case if each local superintendent acted in the capacity of a supervisor. All of our assistant superintendents hold Master of Arts degrees.

A plan of organization may be ever so efficient, yet not be feasible on account of its cost. Supervision through assistant superintendents has been criticised on account of its cost, but in reality it is less costly than the "4740" plan. To be concrete, let us suppose that the ten first-grade high schools in the county were to become "4740" schools, with the head of each school acting as a superintendent. At present, the principal of each of these schools is teaching almost as many classes as any of the other high-school teachers, and consequently, if he is to serve in a supervisory capacity, his teaching load must be reduced. This will necessitate the addition of a teacher in each of the schools at a total cost of approximately $12,000 per year. There will still be eighty-six teachers, distributed among three second-grade high schools, four elementary consolidated schools, seven two-room schools, and twenty-eight one-room schools. Obviously, at least one assistant superintendent will be needed. His services and those of the ten "4740" superintendents would cost the county $14,250 per year, whereas supervision is now provided through three assistant superintendents at a cost to the county of $6,750 annually.

ORGANIZATION FOR EFFECTIVE SUPERVISION IN WOOD COUNTY

H. E. Hall
Superintendent of Schools, Wood County

Supervision is valuable to the extent that it aids teachers to do better work than they could do without it. The strongest

teachers ask frequently for the services of the supervisors because they are conscious of their problems and needs. Few calls for the services of supervisors come from the weaker teachers, for many such teachers do not recognize their limitations and need of help. Supervision, to have much value, must have that quality required to give real assistance to the most skilled, most efficient teachers.

It is the opinion of most thoughtful students of education that *supervision is the work of the specialist.* In order to get best results, supervision must be organized and administered so that each supervisor may function as a specialist. Departmentalization of supervision on a basis of grades makes it possible to have specialists as supervisors.

How the supervision is organized.—Under this plan the supervision of a limited number of consecutive grades is assigned to each county supervisor. Each supervisor works in all the schools in the county district. In districts that maintain first-grade high schools, the local superintendent or principal gives such supervisory service as his time and qualifications enable him to give. The county supervisors supplement the supervisory service of the local superintendent or principal. In each district that does not maintain a first-grade high school, a "principal teacher" is appointed by the board of education, upon recommendation of the county superintendent to represent the school district in planning and directing parent-teacher organizations, community meetings, school exhibits and contests, eighth-grade commencements, closing-day exercises, and so on. Being relieved by the "principal teachers" of many minor administrative matters, the county supervisors are able to devote more time to the more important problems of classroom supervision.

In schools that enroll troublesome, delinquent, or incorrigible pupils—schools that have inexperienced or weak teachers—certain problems of pupil management are assigned to the county attendance officer, who is also volunteer juvenile officer. He is as effective in handling problems of discipline as is the average supervisor. By assigning serious problems of school discipline to the attendance officer, the county supervisors have more time

to give to classroom supervision. The salaries of competent stenographers are much lower than salaries of competent school supervisors. Ample stenographic service makes it possible for county supervisors to give more time to actual classroom supervision.

Number of county supervisors.—There is one county supervisor for the first four grades, one for grades V to VIII inclusive, and one for high-school work in the county district. Each supervisor works in all the schools in the county district and is responsible for the results of instruction in the grades to which she is assigned.

Minimum qualifications of county supervisors.—In order to become a supervisor (1) a person must have a record as a superior teacher in the grades she is to supervise; (2) she must be fully trained for classroom supervision; (3) she must be qualified to do such experimental and research work as may be required to make her supervision effective.

Supervisory service in the Wood County district.—The supervision work for each year is carefully planned. Supervisors, local superintendents, and teachers cooperate in formulating the supervision program. At the beginning of each school year the program is studied and discussed, and a copy is given to each local superintendent and teacher.

Pre-teaching conferences.—Before the school year begins the county supervisors hold conferences with the teachers:

1. To acquaint teachers with grade and class standards
2. To acquaint them with materials for seat and class work
3. To assist teachers in making lesson plans
4. To give the opportunity to work out cooperatively, topics and programs for teachers' meetings, and to plan school and community entertainments, and so on
5. To enable county supervisors, local superintendents, and principals to work out cooperatively school projects and teaching problems

Supervisors' activities while visiting the teacher at work

1. Checking up on previous suggestions
2. Demonstrating for teachers
3. Giving informal and standardized tests
4. Analyzing and evaluating the teacher's work
5. Discussing grade and class standards
6. Suggesting definite remedial work
7. Assisting teachers in making and improving lesson plans

8. Assisting in working out plans for individual instruction and small group teaching
9. Encouraging new teaching projects
10. Planning for visitation by new teachers

"Following-up" work of the county supervisors

1. Conferences with individual teachers
2. Discussion of most important teaching problems
3. Supplying teachers with mimeographed outlines, suggestions, and bulletins
4. Cooperating with local superintendent or principal in a definite program for improvement of teaching
5. Directing study of O. T. R. C. books and other professional literature
6. Planning county institutes, inspirational programs for large groups of teachers with different interests and problems
7. Group meetings during school year which included the elementary-teacher group, high-school group of language and social-science teachers, high-school group of mathematics and physical-science teachers, superintendents' and principals' conferences, and "principal teacher" conferences

Some advantages of the departmental plan.—The county supervisor is qualified through experience and training to render expert service as a supervisor.

In supervising only a reasonable number of consecutive grades, each county supervisor can be a specialist in her field.

This plan makes it possible to budget definitely the supervisors' time and allot at least 50 percent of the time to classroom supervision.

It makes it possible to follow a flexible visitation schedule and give the necessary portion of time to inexperienced and weak teachers, and to answer calls by principals, teachers, and parents.

Cooperative curriculum work, worth-while experimental work, rating of teachers, can be facilitated.

Greatest opportunities for improvement of teachers in service can be provided.

The plan can be administered in the average county as readily and as economically as the zone or district plan.

It adapts to any average county.

It provides efficient supervision at a reasonable cost.

Evidences of progress under the departmental plan of supervision.—Under this plan many more calls come to the county office for advice and assistance of supervisors than were made

while the district plan was maintained. Our records show that under this plan a greater amount of time is given to instructional supervision and less is used for school administration. Supervisors feel a greater need for continuation of the professional preparation in order that they may be able to acquaint their teachers with the newer tendencies and best methods in education. More teachers are willing to rate their own efficiency and many ask for the county supervisor's rating. The demand by teachers for mimeographed suggestions, bulletins, and other materials prepared by the county supervisors increases each year. More teachers attend teachers' meetings, summer schools, and extension classes in education. More teachers are willing to demonstrate their methods and to assist in improving teachers in service. More teachers are preparing themselves for larger service as critic teachers, principals, and supervisors. More teachers acquire what supervision seeks to realize—the ability for self-supervision, the ability for leadership.

ORGANIZATION FOR EFFECTIVE SUPERVISION IN WILLIAMS COUNTY

F. O. Russell
Superintendent of Schools, Williams County

Our greatest ambition in supervision is to keep all our teachers growing. We feel that there are three essentials for teacher growth, namely: (1) A vision of the mental food and exercise which every human being needs to prepare himself for living. (2) Exercise in diagnosing and treating ills pertaining to these mental needs. (3) A razing of social barriers between teachers and supervisors.

The first of these needs we endeavor to meet by presenting to the teachers a curriculum which is true to child-life needs in both objective and suggested procedure in such a manner as to arouse their thoughtful reactions and sell to them the need for such a curriculum. The personnel of each course-of-study committee is made up of persons whose life philosophies, training,

and experience differ considerably—superintendents, experts in that particular field, patrons, and teachers. Their first task is to agree upon the distinct place of their particular subject in supplying the child's needs in mental food and exercise. Their second is to thrash out objectives, subject-matter, and procedures that will accomplish that task. Their third is to present the course to the teachers in small group conferences during the Annual Institute, exercising the teachers in evaluating materials and working out other procedures. Their fourth is measuring results and meeting the teacher in special conferences during the year, whenever problems arise which call for their help.

We endeavor to meet the second of these needs by means of teacher and supervisor exercise in problem finding and solving. Our first step is the use of diagnostic tests (both standard and informal) for exercise in locating problems definitely enough so they can be attacked a step at a time. Our second step is to organize teachers' meetings which will furnish further exercise and stimulation in problem finding and solving. Each teacher selects an actual problem such as "Overcoming my sixth grade's difficulty in analysis of arithmetic problems"; goes to her school to investigate; comes back before the group with a report upon her diagnosis findings, remedies tried, and results that have proved most successful. The general county conferences are built upon the same underlying principle. A common teaching problem is selected by the local and county superintendents. Each group of teachers is then interested in some line of investigation of their own choosing. From time to time they meet for further discussion. Finally at the county conference they pool their findings and arrive at conclusions.

Our third step is the type of personal conference we attempt to conduct. During the classroom visit we attempt to organize the teacher's most pressing needs into one or two definite problems and to lead her to discover these and plan remedial measures instead of telling her what to do.

In razing social barriers we have found many common projects in county unity and publicity work. This latter arouses the same feeling of oneness and pride in a school system that athletics does

in a school. For example, the teacher preparing a team for a chemistry demonstration at the county fair is not doing it to demonstrate his ability in teaching chemistry but to demonstrate what Williams County Schools are doing for the pupil. With such an attitude teachers are more likely to seek help from supervisors who are not overlords but fellow workers in their own school system.

It is important to add that this is not a one-man program. The eight "4740" superintendents in the county take an active part in formulating and carrying it out. They meet once a month for this purpose.

We are all familiar with the teacher who, subconsciously, at least, puts her best foot foremost whenever the supervisor is around, who always reports everything just fine, whose only questions are, "Do you want me to insist that they hold their book in one hand?" and "Is this the kind of lesson plans you would like to have me make?" who passively accepts all his suggestions and just as passively uses them, then sits down and continues to teach as she was told until he comes around again and tells her what else to do.

In contrast picture the teacher who knows just exactly what help she needs and how to ask for it, who comes to her supervisor with "I can't locate the types of errors my fourth grade is making in long division, will you come out soon and help me?" or "Here are some of the outlines my class has been making, evidently I have moved too fast with them. What type of exercise should precede this?" This is a type of teacher to whom the supervisor is a source of help for thinking, not a substitute for it. How much more conducive to growth the latter attitude is!

Our diagnosis of the needs of the former type is: first, a vision of pupil needs in mental exercise and food that will render her critical of traditional methods of teaching; second, power in analyzing her work; third, a feeling of more in common with her supervisors and fellow teachers. It is our ambition to supply the first of these needs by providing a curriculum which is built upon pupil needs and by presenting it in such a way as to challenge their thoughtful reactions. We aim to meet the second need

through cooperative teacher-supervisor exercise in problem finding and solving and the third need through working together on many common projects in county unity and publicity work. Thus our entire program centers around teacher, not supervisor exercise, though I assure you it keeps the supervisor exercising.

The first step in curriculum study as we see it, is to select a group whose training, life philosophies, and experiences differ rather widely. These meet first to clarify their own vision of child-life needs and the distinctive place their particular subject has in meeting these needs. For example, even the vocational agriculture teachers on the agriculture committee finally agreed that agriculture is taught in the elementary schools not because it trains farmers but because it is the only elementary-school subject that gives an opportunity for pupil exercise in solving life problems. The committee next proceeds to thrash out the objectives and suggested types of procedure which will hold true to this distinctive purpose. These are then put into mimeographed form for distribution among the teachers. During institute week the members of each committee meet the teachers who are interested in that subject in small group conferences to sell to them these objectives and types of procedures. As need arises during the year the committee measures results and calls further conferences. Thus each committee acts in reality as a powerful but unresented supervisor.

In addition to these group conferences there are two assembly periods each day. These are usually devoted to lectures on the theory or philosophy which underlies the major county study. The first assembly of the week is given over to setting the problem for the work of the week. For example, last fall the curriculum as a whole, the distinct place of each subject in training the child for his life needs, and how educational practice has changed from cramming information down the child's throat to arousing his appetite and exercising him in finding his own food, were discussed. This aroused in most of the teachers a desire to study objectives and methods for their coming year's work. They entered their various conferences and lectures with a definite problem in mind.

Having given the teachers the vision, in part at least, of the food and exercise their pupils need we next turn our attention to their need for exercise in problem finding and solving.

During the first month of school each child was given the Stanford Achievement test. Following this we went over these tests with the teacher in group conferences to find probable causes of error. These were of great assistance not only in bringing before the teachers a realization that they had problems but also in developing the ability to locate these problems definitely.

At midyear we attempted to make every examination list test each ability that belonged to that year's work. On our next round of visits we discussed each pupil's weaknesses with each teacher and helped her plan remedial work for each class. After the final examination which will be of the same type, we shall again meet with them to discuss whether or not each child has the ability to proceed with next year's work.

In the personal conferences following each classroom visit we attempt first to organize the teacher's needs into one or two definite problems in our own minds, then to lead her to realize these rather than to tell her. Here is a brief outline of my notes for one such conference:

Needs—A vision of objectives and methods of procedures as adapted to various stages of development. (Her sixth grade was swamped trying to recall what the textbook said about the origin of the jury.) Discussion—Comparison of history objectives for each grade to determine fundamental differences in type and purpose of history teaching in each grade. What is the value of a study of the jury system in sixth grade? (Help teacher plan procedure which will realize this value.) How would aim and procedure for teaching the same subject differ in the eighth grade?

In organizing our rural teachers' meetings we are more anxious for their voluntary exercise than for any particular study, therefore we permit each group to decide whether or not they want meetings and what type they prefer. Every group chose one of the problem types. The problems they chose showed the influence of the Standard Tests. "Bringing my second-grade

reading up to standard," "Improving analysis in sixth-grade arithmetic," "The physical conditions that are retarding my children." Each teacher reported her diagnosis, findings, remedies tried, and results to the group at one of the meetings.

Whenever we are building for a county conference, we review the work of the teachers to find a common teaching problem that is a logical step in their stage of professional development. This problem is decided upon and thrashed out in a superintendents' conference, then each superintendent interests his own group of teachers in some line of investigation, the county superintendent meets with each group from time to time, and finally they all come together at the county conference to discuss their findings with other groups. An educational expert is called in to meet with some of the groups and help them to evaluate their findings and reach conclusions in one or two lectures before the entire teaching body.

EDUCATIONAL AND INTELLIGENCE TESTS

G. A. Bowman, *Superintendent of Schools, Chillicothe,* Presiding

THE ACHIEVEMENT QUOTIENT AS AN INDEX TO THE TEACHING SITUATION

Estaline Wilson
Assistant Superintendent of Schools, Toledo

Toledo pupils have been grouped on a basis of intelligence tests for several years. We have also given achievement tests in the fundamental skill subjects. This year we have brought the two measures together so that in the case of each pupil the teacher is able to tell how his arithmetic and his reading ages compare with his mental age. In this way teachers are thinking in terms of the achievement ratios of their pupils.

What is the significance of such a measure? How does it indicate educational procedure? In the first place, in viewing the classroom situation, the teacher takes into account the grade levels. Is this pupil up to, above, or below grade level? Next his achievement ratio. Is this pupil working up to, above, or below his capacity?

There are five groups of pupils in a given sixth-grade class, for example. There is the group doing sixth-grade work whose ratios are in the vicinity of 100. The school is meeting the needs of those pupils in satisfactory manner. There is the group below grade level whose ratios are likewise low. This is a very unsatisfactory situation. The pupil in this group must be better stimulated. He may need prodding, he may need a new type of encouragement. The teacher has a serious responsibility which she recognizes. In this group below grade level are likewise pupils with high achievement ratios. These are doing all that can be expected. The teacher who has been nagging such a pupil, creating in him a dislike for reading, school, and authority in general, is guilty of a serious professional misdemeanor.

Again, there are the pupils above grade level. There is one group with low achievement ratios. These are the gifted pupils for whom we have made least provision. For these the course

must present a challenge in the way of enriched content, provision for talents, extra responsibilities. These pupils must not always be praised for what has for them required small effort. There are also in this group a number of pupils with high ratios. There are those who are ambitious, who should be watched for evidences of over-work and strain.

In addition to indicating attitudes toward work, the achievement ratio provides a basis for marking pupils fairly. When the teacher must decide whether it is better to promote a pupil or to cause him to repeat the grade, we have adopted the following policy. Pupils whose achievement ratios are high are promoted because it shows that they can profit very little from repetition, but pupils below grade level with low ratios are forced to repeat and come up to acceptable grade standards.

High schools are grouping pupils on this measure which is helping them to choose pupils who should carry only three subjects and those who may carry five. Out of this grouping has grown also the necessity for an organization of courses on the unit basis so that pupils may progress more individually.

I have tried to indicate that the achievement ratio is one instrument which if used along with health, teacher judgment, home conditions, temperament, and very especially with grade levels, affords a valuable index to the teaching situation. The reasons are:

1. It indicates groupings helpful to the teacher in adapting subject-matter and in distributing incentives both of which are important in the formulation of attitudes. It is better than either an intelligence or achievement grouping in that it indicates the pupils to be prodded and the ones to be praised.

2. It gives the teacher something upon which to rely when she must grade pupils fairly and decide upon the advisability of promotion.

3. It indicates pupils who should take less than average amount of work and those whose curriculum should be enriched.

4. It makes apparent the necessity of organizing courses on a more individual basis.

RESULTS OF A TESTING PROGRAM

R. E. Offenhauer
Superintendent of Schools, Lima

Any advance in our ability to measure objectively, in whatsoever field applied, is a definite gain for progress. The ability to measure makes possible the removal of the thing measured from the realm of opinion to that of fact. When properly applied to schoolroom practice, it is, I believe, one of our greatest incentives for better scholarship. A pupil likes to know what he knows as compared with others of like grade. If his standing is below the standard, he is more willing than he would otherwise be to bring it up. He takes pride in beating his own record.

I am convinced that the use of standard tests will result in an improved morale among teachers. Teachers are greater victims of opinion than are pupils. Some teachers win their way with the public and supervisors by their personality while doing a low grade of work. Their fellow workers may be conscientious, hardworking, and very capable, but it often happens that the former gets the praise while the latter struggles sometimes unsuccessfully with the former's ill-prepared product.

In teaching we perhaps do the unnecessary thing and fail to do the vital thing more often than is true of any other profession unless it be that of the ministry. In our spelling we teach words over and over that have long since been learned and only put ordinary emphasis on the word that is repeatedly misspelled. The same might be said in regard to the teaching of other subjects, especially mathematics. It is the isolated, the unfound difficulty that checks so heavily against our pupils. In a series of spelling tests which we have been conducting during the present school year, we have in every case analyzed the result so that every teacher knows the percentage of errors of every word in the list as it concerned her class and as it concerned the whole system. The teachers gladly proceeded to teach the misspelled words with the result that surprising gains were made. I am sure that there was increased satisfaction in doing the work when the difficulties were apparent and the task made definite.

The standardized test will locate mistakes. In fact, in our limited experience we are led to believe that the tests have great possibilities in locating the thing that should be done as well as the thing that need not be done. The standardized test must be recognized as one of the largest factors for the elimination of wasted effort in our schoolroom procedure.

We little appreciate how much our teachers are isolated, how little they know of the work of other teachers in the same system or even in the same building. A testing program, however elaborate, will not fully solve the problem, but it will do much to bring about a better understanding and a fuller appreciation of the common problems. Before a test is given, if it is to be given effectively, teachers must be assembled, and plans must be formulated for the proper giving of the test. In such a procedure a great amount of teamwork and common understanding come as a matter of course. After the test is given and the results obtained, more meetings are necessary and for the most part welcomed. At such meetings more problems of the profession present themselves in an almost automatic fashion, and the way is paved for professional growth. It results in a united and coordinated effort.

It may seem a little far-fetched to speak of tests as an administrative aid, but we have quite often found them to be such. When parents are disappointed with the progress of their children and come to us for advice, even though we have taken advantage of every means at our disposal we know altogether less than we should as professional educators. However, if we have used the tests available and have kept accurate and usable records, we can diagnose our case much more accurately and present much more satisfactory evidence. If the case is in the nature of a complaint, the presentation of evidence in which neither personal opinion or personal judgment enters, has a wonderfully fine effect. This may not be the most important factor in a testing program, but I am convinced that the time is at hand when we must know in a better and more definite fashion the things we profess to know if we are to hold the confidence of our constituency. The greatest problem involved in selling the idea

of education to our people, is that of being able to talk to our patrons in an intelligent, definite, and conclusive way on problems that we are under obligations to know.

The experience gained in our testing program led us to believe that much is lost in teaching a subject intensively during one year and then dropping it entirely. Putting the case a little stronger and more definitely, we felt that much is lost in teaching English intensively in one room and ignoring it in others. We found that the sixth-grade pupils outspelled the seventh-grade pupils; that the eighth grade showed a gain due to the elimination of the poorest from the seventh, but that both the ninth and tenth years showed a sad decline over the eighth. Practically the same results obtained in mathematics. The evidence seemed to be sufficiently conclusive to warrant our changing our procedure where the subject was to hold over and enter vitally into the teaching of other subjects. We have planned that in all high-school subjects the English phase of the subject is to count in the credit given. For instance in the teaching of history or physics or any other subject, 10 percent of the credit is based on the English phase of the subject and 90 percent on the content of the subject itself. The whole purpose is to conserve the advance already gained. To overcome the spelling difficulty without consuming an undue amount of time we are planning to select about three hundred words for the seventh-year pupils. We shall expect them on actual tests to make a grade of 90 percent on this list as a condition of promotion in English. As soon as they make a grade of 90 percent, however early it may be in the school year, they are excused from spelling for the remainder of that year. There will likewise be a list of three hundred for the eighth year, three hundred for the ninth, tenth, and so on to and including the twelfth. It is our purpose to make this accumulative. In reality it means three hundred words for the seventh year, six hundred for the eighth, nine hundred for the ninth, and twelve hundred for the tenth, etc. These words are being carefully compiled, care being taken to select only such words as are suitable for the grade and at the same time possess high social value. We want the work already done to carry over.

We want to keep alive a word consciousness, or build one up if none exists.

I have in the foregoing noted results that I think have some evidence in their purport. I have not attempted to be exhaustive. Our program has necessarily been a limited one. However, I presume that certain conditions must obtain in the giving of tests else results might be quite different and less satisfactory than I have indicated.

There are grave dangers in a testing program. A testing program imposed from the top in which the teachers have all the drudgery and no share in planning the campaign or joy in interpreting the results, will fail. There are certain conditions that must obtain to get the best results. The value of tests is so evident that their value can be shown before a testing program is started, and all teachers capable of being converted to the idea should be converted before operations begin. Teachers have a right to help plan the giving of the test. A test that is not promptly reported back to the teacher can easily do more harm than good. Careful consideration must be given to group differences. If testing is done in one subject at a time, care must be taken that that subject does not get too much attention. The whole program must be confined to the idea of getting most-needed work done in the best possible way, and our experience has shown that it is better to do only that which can be done well.

ACHIEVEMENT TESTS IN MODERN LANGUAGES

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The Modern-Language Study, financed by grants from the Carnegie Corporation under the auspices of the American Council on Education and administered by a Committee on Direction and Control, consisting of twenty distinguished and representative teachers and professors of modern languages, is the latest of the nation-wide studies of school subjects as instruments of instruction. The purposes of the Study are: to make as complete a survey as possible of modern-language instruction in schools

and colleges, to formulate the immediate and ultimate objectives of such instruction and determine by test and experiment the extent and conditions under which these objectives are realized and realizable, to analyze in detail modern-language curricula with a view to their possible improvement, and to inaugurate needed research concerning a multitude of problems of curricula and methods. The enormous increase in enrollment in high schools and colleges, which is the outstanding educational fact of the past twenty-five years, the multiplication of subjects in curricula and their insistent claims for recognition, and the widespread application of quantitative methods in education, make such a study not only desirable but necessary.

An important step in the improvement of learning and teaching modern languages is the determination of the present standards of accomplishment in school and college instruction. For this purpose it is necessary to develop and apply more adequate and more objective devices for measurement than we now possess, to replace the personal and subjective judgments of achievement and progress on which we have relied. Only through valid, reliable, and comprehensive standards of measurement can norms of achievement be established, accurate and convincing comparisons made, and the effect of varying methods, abilities, ages, and conditions of instruction be lifted out of the realm of opinion and conjecture. What we can measure we can talk about intelligently. This, of course, needs no argument or discussion before a section on educational and psychological tests and savors of carrying coals to Newcastle.

The four immediate objectives of instruction in foreign language are the development of the ability to read, to write, and to speak the language, and to understand it when spoken. While these abilities normally grow up together and are perhaps highly correlated, they may show with varying methods and conditions of instruction considerable independence. To determine accurately a fairly complete profile of a pupil's achievement in a language requires a large battery of tests:

1. A Vocabulary Test, to measure growth in knowledge of words and word meanings at successive stages under varying conditions and with varying methods.

2. A Silent Reading or Comprehension Test, to measure the ability to read and understand the written or printed language. This test should probably be made up of two parts, one for measuring the understanding of sentences, the other, the more difficult to construct, for measuring the understanding of paragraphs.

3. A Translation-into-English Test, to measure ability to render a foreign language into English.

4. A Translation Test, to measure ability to render English sentences or passages into the foreign tongue.

5. A Written Composition Scale to measure ability in free composition.

6. A Grammar Test, to measure functional knowledge of forms, syntax, and idiom.

7. An Aural Comprehension Test, to measure ability to understand a foreign language when spoken.

8. A Pronunciation Test, to measure the ability to enunciate correctly the sounds and words of the foreign language.

9. An Oral Composition Test, to measure ability to speak the foreign language.

Standardized group tests for pronunciation and oral composition which could be administered widely, seem almost impossibilities. The others are perfectly feasible with time, patience, and cooperative effort. The Study is proceeding as rapidly as possible with the construction for French, German, Italian, and Spanish tests. It is not within the realms of possibility that twenty-eight standard tests of proved value can be constructed and perfected within the three-year period allotted to the Study. The building of even a single test is an involved process, for experience has shown that an uncritical assembly of test items into one of the many novel forms developed in intelligence and educational testing will not result in a test of permanent value which teachers will accept and continue to use. As a matter of fact, the number of tests to be constructed and tried out is much larger than twenty-eight when account is taken not only of the necessary alternative forms but also of the many different testing techniques which must be studied.

The four criteria of a good modern-language test, as of any good test, are validity, reliability, comprehensiveness, and administrative feasibility. To be valid it must measure what it purports to measure. To be reliable it must yield consistent results when administered to different groups or to the same group at different times with a minimum of error. It must be comprehensive enough to give comparable measures at different stages or levels of achievement. To be administratively feasible it must be reasonable in cost and in length of time required, objective, and largely self-administering.

A realization of these characteristics is essentially a matter of three things: the selection of test items, the selection of the best technique, and a determination of the minimum length of the test to give satisfactory results. The selection of test items is fundamental to secure validity and comprehensiveness. The selection of techniques and length are essential to secure reliability and administrative feasibility. In view of the diversity of texts, curricula, and methods of instruction in the modern languages, the selection of test items is no easy matter. Two main methods have been employed, for example, in vocabulary and grammar, one to select items that are common to a large number of widely used texts or that occur with sufficient frequency to justify their use for testing purposes, the other to make word counts of the literature the student will be expected to read, and frequency counts of syntactical phenomena and idioms that the student will meet in his reading. The second method is more fundamental and must ultimately be the basis of selection. The first makes the assumption, which is by no means proved, that the vocabulary, syntax, and idioms appearing in the first year grammars and readers are what should appear there. Frequency counts of vocabulary, syntax, idiom, and errors in exercises are basic not only for sound test construction but for curriculum revision and textbook-making. What knowledge is of most worth, how to acquire it most economically and effectively, which problems are the subjects of investigation just now by teachers and students of education from coast to coast—these are not new things. They have arisen anew in each generation before and

since schools were established. The distinguishing characteristic of the present studies in curriculum construction is the attention not so much to the relative values of subjects as to the relative values of items of instruction within subjects. We can no longer travel leisurely through our ages and get the heart out of a liberal education, as Stevenson proposed that we should. Every hour must count. Not only every subject in the crowded curriculum but every item of instruction will be weighed in the balances of social utility or psychological need and be ruthlessly rejected if found wanting.

The Modern-Language Study has provided for these basic frequency counts in vocabulary, syntax, idiom, and errors, and in doing so will make a signal contribution to the learning and teaching of the modern languages, the effects of which will be far reaching. A Spanish Word Count based on 1,200,000 running words will furnish the 5,000 words the student needs to know for his reading, arranged in the order of importance. The German Word Count by Kaeding based on 10,000,000 running words has been reduced to a dictionary basis and will yield the 5,000 words most important for the reading of German. A French Word Count based on 400,000 running words now gives a list of 3,900 important words. This will be extended to over a million words to increase the reliability of the words in the lower half of the list and extend its range. Check lists are in course of preparation in each of the languages for syntax, idiom, and error counts. When this fundamental work is done the curriculum may be constructed on a sound basis and pupils may be taught what they most need to know. We shall then also have the materials for tests of what the pupil has come in contact with and may reasonably be expected to know.

The Vocabulary Tests in French, German, and Spanish are built on the basic word counts. The Italian Vocabulary Test is based on the words common to beginners' texts. The German Grammar Tests are all based on items common to current grammars, since the basic studies of syntax, idiom, and errors are still in progress. The Silent Reading Tests have taken more or less systematic account of the word counts. The tests of under-

standing the spoken language are taking the word counts very definitely as a basis in the selection and gradation of sentences or passages.

Standard tests should serve not only to measure the results of instruction but also to improve the materials and methods of instruction. If this is true then the selection of test items is a matter of much importance. The general principles of selection involved in the making of modern-language tests apply with equal force to many of our educational tests. The validity of tests and test items must rest on a more fundamental analysis than presence in current texts. Tests so constructed assume that current texts are sound and will tend to perpetuate materials and practices whether they are sound or not.

After the problem of selecting test items comes the problem of the technique and length of the test to give the most reliable results. The researches of Wood, Ruch, Toops, and others on the relative values and reliabilities of different techniques are valuable but are not in entire accord. We meet with this problem on every hand in making modern-language tests. Let me illustrate these problems and difficulties by reference to the American Council French Tests, Parts I and II, which are in process of standardization. The mimeographed sheets give some tentative data from the February administration. Note the vocabulary test first. Granting that it is a valid selection of words, is it worth while using in a battery of tests? Language teachers are in sharp disagreement, some holding that it is an important test, others that it isn't worth the time it takes to give it. Some teachers insist that the article should always be included, to which the obvious reply is that dictionaries and vocabularies in texts do not include them and that as only word meanings are to be considered, for testing purposes this doesn't matter. Others insist that the words should always appear in context and never in isolation, to which the reply is that time of administration and cost of printing are important factors and that in any case the correlation between column and context results is very high. Some teachers become indignant when they see the selection or recognition technique, insisting that the only sane way to test

knowledge of words is to use the completion or recall technique. The reply is that the selection method gives more pupil response in the same length of time (and time is important), that scoring is easier and more objective, and that while the absolute scores by the completion method are much lower the relative scores agree very closely. These may seem trivial matters, but language teachers are conservative and resistant to these testing techniques and have to be shown every step of the way by convincing evidence. The reliability coefficient of the vocabulary tests is 0.91. The probable error of estimate is 3.1. Both figures indicate a high reliability as educational tests go.

In making grammar tests the problems of technique are interesting. Wood of Columbia University starting with a bias in favor of the recognition type finds evidence which now inclines him to a completion type of tests. I started in foreign-language testing with a predisposition in favor of a completion or recall technique and have evidence which inclines me to the selection or multiple-choice type. The Coleman grammar test which appears in the battery of French tests is largely of the completion type. The Cheydleur test developed also for the Study is strictly of the selection or multiple-choice type. Both contain fifty items, both have the same time allowance, and both were given to the same students. The Coleman test gives a reliability coefficient of 0.87, and the Cheydleur test 0.88. This difference in variability is marked so that the probable error of estimate of the Coleman test is 3.7 and of the Cheydleur test 2.5. This may be due to the influence of the technique. It may be that there are inherent differences in the grammatical items selected since the tests are not identical in this respect, or it may be due to the fact that the Coleman test being joined with the vocabulary was necessarily administered on different days, while the Cheydleur tests, Forms A and B, were administered on the same day. And so the matter is still unsettled.

The measurement of reading ability is beset with all the difficulties that have been encountered in measuring reading ability in English and others peculiar to reading a foreign language. Reading involves the comprehension of word meanings, sentence

meanings, and paragraph meanings. A paragraph test involves the understanding of sentences as well as the understanding of words. The difficulty is to secure satisfactorily graded paragraphs and then to devise a technique that will measure growth in reading power reliably within reasonable time limits. The Coleman Reading Test in French on which a great amount of time has been expended gives a reliability coefficient of 0.84 with a probable error of estimate of 2.1. This is surprisingly good for a test of this type. We had to make the choice of measuring reading ability at the sentence level or of attempting the more difficult paragraph test with the necessary loss in reliability and objectivity in scoring. The Thorndike-McCall Test in English after which it is fashioned is far more widely used than a number of other reading tests which are much more reliable and objective. This indicates to me that we are not content to measure reading ability on the word or sentence levels. Many problems of technique arise. The natural method of indicating that one comprehends a paragraph is by answering questions on its contents. Should the questions and answers be in French or in English, or should the questions be in French and the answers in English. Experiment alone can decide, and Ruch of Iowa is engaged in making these comparisons, and also in trying out a true-false technique and Van Wagenen's paragraph-statement method.

Ability in free composition is easily registered, but the rating of the product objectively is difficult. Trabue is building a composition scale in French, which will reduce but not eliminate the subjective elements in scoring. The simplest method is merely to count the number of words written in the eight minutes allowed. Another will be to base a score on the errors made, which is more time-consuming and subjective. The third is a comparison with a scale of general merit. The selection of a picture and the making of the scale on a basis of compositions written about it will make for comparability and objectivity.

An Aural Comprehension Test to measure the ability to understand French when spoken has been prepared by Balliff of Utah, following the plan first used by Professor Russell now of Ohio State University. It consists of a series of graduated sentences

with a single word response. To increase objectivity and comparability it is hoped to put the test on a phonograph record using the new and much improved method of electric recording devised by the Western Electric Company.

A Sentence Comprehension Test to supplement the vocabulary and Paragraph Silent Reading Test is still in the experimental stage. Some type of sentence test will probably be useful for diagnosis and classification on the lower levels.

With this battery of six tests we should be in a position to measure fairly adequately and objectively three of the four abilities which modern-language instruction seeks to develop. (Oral composition and pronunciation comprise the fourth ability not measured.) With it we can set standards of accomplishment; we can gradually build up a literature of fact for the large literature of opinion on such questions as: the normal growth in ability to read, write, speak, and understand a foreign language by successive semesters; the effect of varying methods on the different abilities in language; the effect on achievement in various abilities resulting from the age at which the study of the language is begun; the effect of varying periods of disuse on language abilities; the effect of transfer from the study of one foreign language to another; comparative achievements of pupils beginning a modern language in secondary school and in college; comparative achievements of pupils in European and American schools; the effect of practice in reading vs. practice in translation on the ability to read a foreign language, and so on. These and a hundred problems like them await the study which only standard measuring devices will make adequately possible.

HOW MANY WORDS SHOULD BE TAUGHT IN SPELLING

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For a number of years the fact that the Ayres list contained a thousand words tended to lead teachers to the conclusion that the number of words which should be taught in spelling was relatively small. The thousand words of the scale were contrasted with the much larger number of words found in spellers

in common use at the time this scale was issued. One of the reasons given at that time for not teaching more words was that after the first few hundred words and certainly after the first thousand the counts for each additional group of words were so unreliable as to make one hesitate before including such words in the course of study. While such a conclusion could easily be accepted if we were limited to the relatively small counts upon which the spelling scale is based, it can be readily seen that the reliability of the data for words of the second, third, fourth, fifth, and even the tenth thousand, is greatly multiplied by the more adequate counts of the present time. Data are now available from the analysis of over five million running words which give a reliability to the tenth thousand words which is greater than that possessed by the tenth hundred words in the Ayres scale. Moreover, the present data are superior not merely in amount, but also in the balance of the sampling among the various types of adult writing needs. From the standpoint of reliability, therefore, it must be admitted that the value of words even in the seventh, eighth, ninth, and tenth thousand in order of frequency is measured with a reliability not even approached for the most important items in the case of other subjects. We can now say for the ten thousand words most frequently used in writing that there is no question of the value of any of these words. The only question is whether the value of teaching any given group of these words is equal to the value which would result from teaching some other subject for the same time.

In the attempt to determine how many items should be taught in a course of study in any subject one must take into consideration, first, the relative value of the items to be taught, and second, the time required for teaching any given number of items. The relative value of the items in a subject must be measured not only in terms of the subject itself, but also in terms of the value of items in other subjects.

In the case of spelling, the question of relative values is best stated in the following form: What is the limit beyond which the values resulting from learning to spell any additional number of words are less than those which would result from the same

amount of time devoted to some other subject? It is clear that, other things being equal, the most important words should be first chosen in making the course of study in spelling. It is also clear that each additional group of words will be less important. This is shown clearly by the speaker's investigation of written correspondence. This investigation was made under a grant from the Commonwealth Fund and included the tabulation of over five million running words. Approximately thirty-eight thousand different words were found.[1] These words were arranged in order of frequency.

A study of this order of frequency shows clearly how the law of diminishing returns operates in the subject of spelling. After a thousand words are taught, the addition of each group of approximately a thousand words adds a very small percent to the total number of running words which are controlled by the learner. In interpreting this statement it may be well to point out that our most recent investigations seem to indicate that, with the best methods of teaching now available, a little more than six hundred words can be taught to practical perfection in each grade above the third in the time limits now set in the average daily program. To add a thousand words, therefore, at the level of say the sixth grade, would mean that we would add to the burden of the course of study the equivalent of about fifteen minutes work a day for a period of about one and one-half years. A superficial study of the data may suggest that after the first thousand words have been learned, the returns even for the second thousand are so small that one can scarcely justify giving fifteen minutes a day for a year and a half in order to teach that thousand words. Since the increment of value is much smaller for each additional thousand words, the difficulty of justifying each successive thousand becomes great. For example, the student who knows how to spell the 4,042 commonest words can spell 94.6 percent of all of the running words that he writes. The learning of an additional thousand words adds only slightly more than one percent to the number of running

[1]For a brief description of this investigation see the *Third Yearbook of the Department of Superintendence*, Chapter IV. (1925) The three thousand commonest words are printed in the *Fourth Yearbook of the Department of Superintendence*, Chapter VI. Washington, D. C., National Education Association, 1926.

words which he can spell. Is this value sufficient to justify the time which is required for teaching a thousand words?

Since many of the words are easy to spell, this thousand could probably be learned in a year by a class studying fifteen minutes a day. The speaker has estimated that a person writing ten thousand running words a year would use, on the average, two words from this thousand each week. If one takes into consideration the use of but two a week and also the penalties attached to failure in spelling, are the values resulting from this fifth thousand words as great as those which might be obtained in the same amount of time through the study of some other subject? It will be seen immediately that in order to answer this question satisfactorily one ought to have for other subjects tables of diminishing returns comparable to the data which we now have for spelling. Unfortunately we do not have such data for any subject other than spelling. Such data have been made possible in spelling, first, because of the relatively simpler problem involved in applying scientific methods to evaluating this subject, and second, because of the relatively greater amount of research in making the curriculum in this field. The best that can be done until better data are available for other subjects is to use the method of judgment. A comparison of the value of spelling with that in other subjects is of course impossible in the time allowed the speaker on this program. It may be well to point out, however, in the following table that practically all of the ten thousand commonest words are well within the limits of probable use of the ordinary person.

TABLE I

Examples of Words at Each Limit

1–500	experience, plan, accept, complete
501–999	brought, Christmas, definite, manager
1,000–2,009	accident, forenoon, moon, skirt
2,010–3,017	dull, pity, northern, communicate
3,018–4,042	knife, injury, cure, frequent, hardest
4,043–5,042	behavior, bride, conviction, overcoat
5,043–6,055	criticize, discourage, dreary, radiator
6,056–7,068	blunder, disturb, initiate, stake
7,069–8,217	beginner, collision, discovery, explosion
8,218–9,049	barber, climax, reject, flew, perfume
9,050–10,195	germ, modify, pave, dust, spin

Only a tentative answer can be given to the question of how many words should be taught. The following answers are based on a careful study of all existing data, but the judgment of the speaker enters to a considerable degree. First, the public greatly distrusts any tendency to neglect the three "R's." In a recent study laymen were asked to give their judgment as to what the elementary school should emphasize. These laymen showed clearly that they thought the school should emphasize the teaching of the three "R's." It does not seem advisable to cut down, at present, the average time allotment of about fifteen minutes a day or seventy-five minutes a week. Second, in fifteen minutes a day about 4,500 words can be taught to practical perfection to the average child by the end of grade VIII. Third, spelling is of value in and of itself. Each of these 4,500 most important words are used with considerable frequency. It must be kept in mind also that the penalties attached to misspellings are among the most severe that are attached to any adult deficiency. The misspelling of a few words in a letter of application is practically certain to cost the applicant his chance for the position. It must be kept in mind also that there is probably a value in a well-defined, scientifically determined, and learnable objective (as in spelling) which is greater than that which should result from an ill-defined, unproved objective which may not be learned.

Therefore, for the present, about 4,500 words should be taught. At the same time it is unquestionably important to make a more careful comparison of the marginal values in spelling with what seem to be the marginal values in other subjects.

ELEMENTARY PRINCIPALS

MAUDE RUPEL, *Principal, Van Cleve School,* Presiding

THE VALUE OF ORGANIZATION

KATHARINE MARR MANSFIELD
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The following questions may be used as a point of departure in the discussion of this subject: Do we need organization among elementary-school principals? What organization of elementary-school principals has already been effected? What are the specific accomplishments of such organization? What further organization is needed? With what matters should these organizations concern themselves?

At the last meeting of the National Education Association in Washington, the J. Cayce Morrison *Study of the Elementary-School Principals of Ohio* was widely quoted. From a professional standpoint this study reveals some deplorable conditions. It says in part, "The evidence on hand at the present time indicates that the elementary-school principalship is in no sense a position of influential leadership..... The gaining of such a position of leadership is possible only through the *united effort* of all the men and women who are serving as elementary-school principals."

While this study shows a woeful lack of training and *esprit de corps* among the elementary-school principals of Ohio, it may be safely assumed that what is true of Ohio is true of other states. Nine out of ten of the principals of this country are too small in their professional thinking to pay the $2.00 fee for membership in the National Association of Elementary-School Principals. Yet no man or woman holding the position can afford to remain outside this organization. For the past five years it has served as a clearing house for the best educational thought in the field of elementary education.

Thanks to the unselfish activity of the leaders of the national organization, many principals are alive today to some of the dangers that threaten the dignity and educational leadership

of the position, but there is a far graver danger with which we may well concern ourselves and that is: Are we big enough to measure up to the responsibilities and opportunities that the new concept of the elementary-school principalship places before us?

The present status of the elementary-school principalship has evolved so rapidly that the average principal is not prepared to assume these new responsibilities and opportunities. The adaptation of the school to the pupil is an infinitely more detailed and complex problem than it was a few years ago. Some of the factors that have helped to evolve this new conception of the elementary-school principalship have been (1) the building of large school plants, housing a thousand or more children (a comparatively recent development in elementary education) and the consequent differing problems in building management, supervision, and administration, (2) a tendency in recent years to decentralize the school system, thus throwing more responsibility and authority to the principal, and (3) the wealth of findings contributed in recent years by the research men in education. It becomes the duty of the principal to search out, interpret, and weave into a social policy for his school these contributions, thus getting them beyond the inarticulate stage. Nowhere else is there any group so exactly in the right position to do this as the elementary-school principal with his close contact to pupil, teacher, and parent.

We must become engineers and builders. The value of organization in this connection cannot be stressed too strongly. To realize this new concept of the principal, we must organize in state and city as well as nationally. The isolated principal, no matter how forward-looking in his own school, can accomplish little alone. The individual has restrictions in freedom of speech and experimentation that a vigorous group can overcome.

To appreciate the value of organization, we need only look back over the past few years to the time before the organization of the National Association of Elementary-School Principals —to the "lean and hungry years," when the individual principal was an unrecognized factor in the educational scheme. In Chicago in 1922, Dr. Winship said (and subsequent events proved him a

prophet), "The elementary school and the elementary-school principals have never had a fair share of recognition or public appreciation, financially or in honorable mention. The tide has turned, and they are to occupy a higher place in educational councils, locally and nationally. This is not accidental, but a distinct professional revelation."

The national organization was the result of an aroused professional consciousness among elementary-school principals all over the country. It was born of a necessity and it met a real need. In 1921, elementary-school principals as a whole were without an educational policy, without defined functions, with an intolerable vagueness as to their aims and duties, and no special training in the technique of supervision and administration. Since its organization, the National Department of Elementary-School Principals has issued four yearbooks, published three bulletins each year, and put on purposeful and well-balanced programs at the February and July meetings of the N.E.A. that have compelled the attention of all departments of education. It has quickened the professional conscience of elementary-school principals all over the country. It has made possible a solidarity of aim and achievement hitherto believed impossible of realization.

If we are to continue to grow and to deserve the local and national recognition that has come to us in recent years, we must be ready to lead in each advancing step that is taken in elementary education. In the last analysis, the responsibility rests upon us as individuals. Are we ready to accept the challenge? The success of our national organization and the degree to which we as individuals will benefit from it depends upon the circulation of its ideas through the cities and states of the nation. All that is done to build up efficient and constructive local groups will bolster up and make more effective the work of the National Association of Principals. We must have more state and local groups if we are to further the great work to which we are dedicated. It is said that we are suffering from an "inferiority complex." We must create in our own group a consciousness of our own importance and possibilities. Through our professional organizations we must set standards for our group. We must

make our work of such a high order that only the best and ablest will be tolerated by the public. We must stand for more and better professional training. We must, working through able committees, help solve the problems of adequate training, salary schedules, supervision, etc., that are challenging the attention of our profession. We must beware of letting our local clubs degenerate into forums for mere idle "talk"; thinking people are not going to waste their time and dissipate their energies belonging to an organization that carries on no constructive program.

Above all, we must keep faith with ourselves and be true to our best ideals—we must not sacrifice our intellectual integrity on the altars of false gods, no matter how great their following nor how renowned the educational institutions who set them up. In these days of feverish fads in education we must be ever on the alert not to confuse the gold with the gilt, but to apply the clear, cold light of common sense to all contributions offered us. The word-juggling sycophant is apt to clothe his offering in words borrowed from the philosopher and the scientist. We must learn to discriminate.

Only organization can achieve what should be achieved. By cooperation we shall truly make the principalship "the key-stone of the educational arch." There is no limit to what we can accomplish. We can be circumscribed only by our own shortness of vision and lack of the required effort.

THE ELEMENTARY-SCHOOL PRINCIPAL AS A SUPERVISOR

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For some years a tendency to divide the responsibility for the supervision of teaching in an elementary school was manifest. This has recently been checked and now more than ever before the principal must shoulder the responsibility for the success or failure of his school. This is probably wise. Traveling supervisors have always found difficulty in keeping up with their task

and they have always been more or less outsiders so far as each particular school was concerned. General and subject supervisors should be regarded as consulting experts rather than follow-up visitors of classroom teachers. They should be expected to lead in the organization of a certain part of the total educational program of the city and should be "on call" to assist when needed.

Such a policy implies that the principal is competent to supervise. What does this mean? First, the principal must have a good grasp of the educational program of his school as a whole. It is a mistake to limit the work of supervision to oversight of recitations. Everything that goes on in the school is educational and potentially highly so. Supervision has to do with this program in its entirety.

In the second place, the principal should beware of depending upon one or two means of improving the educational work of his school. Some writers are inclined to stress classroom visitation and criticism of the work of the teacher, making of these practically the whole of supervision. Passing over the fact that grave doubt has been cast upon the ability of the casual visitor truly to evaluate what he sees in a classroom, we may point out the fatuousness of depending upon a single method of diagnosis and remedy. What actually counts is results, and these cannot be adequately weighed by observation alone. Definite tests and measures of achievement, for example, must also be employed.

Perhaps the outstanding weakness of the observation method is that it tends to regard the technique of method as the all-important consideration and to ignore other equally important factors, such as scholarship, for example. As a means of guarding against one-sidedness the principal will do well to make a fairly inclusive inventory of teachers' needs and balance off against this the available means of meeting those needs. Such a step will tend to insure versatility and will give the principal better balance and poise than he would be likely otherwise to attain.

A third point relates to the principal's attitude toward the subjects of study. These constitute the organized experiences

which the school traditionally is supposed to provide. But the subjects are undergoing rapid transformation. Unremitting effort is necessary to him who would keep pace with their development. The principal should arrange a fairly inclusive program for the improvement of the teaching of a subject and work out such parts of this program from time to time as conditions indicate.

The improvement of a subject is usually possible by attention to aims, the activities of the pupils, the materials used, the rôle of the teacher, standards of achievement, or tests and measures of progress. The efficient supervisor always has all of these possibilities in mind and sets the proper forces in motion to bring about improvement in one or more of them as the most pressing needs reveal themselves.

ULTIMATE VALUES IN TEACHING

Blanche Carrier
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The last decade has seen great changes in public education. Our curriculum, our buildings, our aims have changed. Education is now measured by power rather than knowledge. The child must be able to meet new situations. But power comes from the whole of life, not from subject-matter which has been put into compartments. So the child's education comes from his school plus his home, his street, his movies, his books, and friends—everything that makes experience. Out of all this comes character.

The public school is facing more keenly than ever the challenge in the fact that all the education we give the pupil is of little value unless accompanied by the formation of an upright character. But the complex organization of the modern school makes it more difficult than ever for the teacher to know each child intimately, or to take class time to discuss conduct problems. The schools will need to work out a new plan by which the teachers of one child may talk over his problems, and one teacher take the responsibility of helping him.

In this need, a new type of work has sprung up—it gives religious instruction for one hour of the child's school time each week, by teachers well trained for teaching, chosen and paid by the churches working together; it meets all the educational standards of the public school; and it has for a specific aim the building of character by helping the child meet his present problems with new ideals and by developing appreciations for the Bible, the church, and prayer. The teacher uses the Bible stories, the discussion of problems of living, dramatization, notebook work, worship services—all to this end. The course is elective and held where possible in near-by churches.

Where such schools are at their best, what results may we look for? The children themselves tell us that their home and school conduct is better, their interest in church and Sunday School keener, their desire to live up to their best, stronger. In the most ideal situations, teachers and principals cooperate and benefit by visiting our schools, knowing what is done, and being able, tactfully of course, to use the ideals in class work at school. They are finding it easier to understand the children, since the pupils will talk more freely about their ideals.

In closing, I have two things to ask of principals now cooperating with such a system of schools. If in some places the work is crude as yet, remember that the church people have just begun, and you can help them to know the best educational standards. Don't judge until the schools can grow up. And both schools will benefit if you will take the teacher of religion into your group of teachers and talk over together the individual and group problems, the results to be sought, and the methods to be used. Then we shall all be working for the ultimate value in teaching—the building of solid character.

ELEMENTARY TEACHERS

ELIZABETH C. BRUNNER, *Fairwood School, Columbus*, Presiding

TEACHING THE INDIVIDUAL IN THE GROUP

GARRY MYERS
Cleveland School of Education

All over the country the rising school cost and financial stringency are compelling an increase rather than a decrease in size of classes. Against this comes the cry for individual instruction. Such splendid schemes as the Dalton and Winnetka plans have not yet proved practical for large school systems. The practical problem is how to reach the individual in the group so that, without decreasing the size of the class, there can be more effectual adaptation to individual differences to the end that each child will be stimulated and allowed to progress in accordance with his capacities.

We have been so overwhelmed by the task of teaching children to master a few tools that very little time is now available to teach them to use the facts concerning which they have an appalling mental mess. This paper deals chiefly with the problems incident to teaching the more or less mechanical facts. Standard educational tests, along with the wide good they have done have stimulated an insanity for speed pressure, which may, perhaps, be interpreted as speed for insanity. The emotional annoyances to the child in the average classroom incident to the modern mania for speed have been overlooked. Most so-called improvement of teaching through the use of standard educational measurements is not improvement at all. Though the children as measured by such tests have been found to do more in a given time, they also make more mistakes in that time. Literally children are learning to make mistakes faster by our modern methods. They mess over more. The chances are that the apparent gain comes from greater pressure rather than from better teaching skill. It may come, indeed, with poorer teaching.

The socialized recitation with all its possibilities for good usually degenerates into means for making more mistakes.

Schools have cried for more money for blackboards, but blackboard work in the average school merely multiplies mass errors. Most blackboard errors of one child tend to become errors for the thirty-odd other children. Unfortunately most teaching still consists in pressing pupils into making errors so the teacher and the other children can correct them. In presenting each new step in such factual- and skill-learning as that of arithmetic, one or two samples are worked by the teacher on the blackboard. A child is then called to the board to do a similar example. The chances are he makes mistakes while all the class look on. Another pupil takes his place. He too may fail. After several successes and about as many failures all the children are set to do a problem at the board or at their seats. How appalling is the number of their errors! For most of the children the teacher did not give enough samples before she started the individual children, and then only one child was working at a time.

To help overcome this difficulty let many samples, printed or mimeographed, be placed before the child. Let these numerous samples for each difficulty-step be followed by problems of this step with printed instructions for the learner. Some day texts will provide such self-teaching materials. A little is creeping into them now. With such self-directing exercises the learner can proceed practically without mistakes. Each child can work at his own speed. The teacher can be available for individual aid. Experimental studies by the writer have clearly demonstrated the efficacy of such a scheme for promoting individual instruction in the group. The whole plan emphasizes teaching rather than testing. It is self-teaching and self-testing.

There are also great opportunities all through the grades to set the ablest children of one or several relatively higher grades to help individuals or small groups of children in a given grade. For example, a good speller of the fifth grade, may be called upon to be responsible for bringing up a poor speller in his work in the third grade. Likewise a good reader of the third grade can profitably amuse a small group of kindergarten children by sitting down among them and reading to them. Halls and corners, by and by, will be employed by such means of pupil-teaching.

Although some able pupil-teachers may be found in the child's own grade such teaching generally arouses jealousies and other attitudes unfavorable to learning.

Opportunities for individual instruction lie in development of self-teaching exercises and self-teaching textbooks, and in pupil-one-another teaching.

TRAINING CHILDREN IN INITIATIVE THROUGH SERVICE AND COOPERATION

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The purpose of this paper is two-fold: first, to set before you what I think is the primary duty of us as teachers, namely, to develop such initiative in the child through cooperation and service that we may create in him those characteristics which will give him a rich and purposeful life and, second, to outline a few simple ways in which this may be done. There have been many changes taking place in education in the past twenty years, but I believe that these have been the means of making us realize that after all the principal aim is happy, useful living.

As one reads the history of his country he passes over periods of twenty-five or fifty years with very little notice of the changes that have taken place during so short a period. He little realizes the difficulties that had to be overcome by the people living at such times, nor does he conceive of the real needs which brought about certain changes. An American reads with pleasure of the fortitude of the colonists, the daring of the Revolutionists, the thrilling adventures with the Indians, and the hardships of the pioneers, without even stopping to think how often there must have been outcries of "Why this move?" or "Why that plan?" or even "What's the use!"

Just so the student of education leaps from the study of one theory to another, much interested in the changes having taken place and much concerned with the opinions which the greatest educators have given upon these theories, but little concerned with the feelings of the mass of people who were subjected to

these changes. Today we are constantly hearing, and all of us are sometimes guilty of giving such cries as these, "Fads!" "Fancies!" "Oh, this unrest!" This should not be alarming, because it has always gone hand in hand with any new movement.

There has never been a time in the history of the United States when so many people have been awakened to the scientific study of education. We are now passing through a time when a new phase of education is being launched. But let us not as teachers be overly cautious. Let us not be held back by the fear of the superficial judgment of the unenlightened public, but let us push on for the sake of the child. We all know the many handicaps, financial and otherwise, that education undergoes. Therefore, the institution of education cannot afford to have teachers holding it back. H. G. Wells says that teachers are unconscious not only of their own importance but of the range of their own functions.

Most grown people of today were taught when the doctrine of formal training was at its height, and many of us here today began teaching with that theory happily imbedded in our hearts. In the February, 1926, number of the Teachers College Record the statement is made that Thorndike in his first *Educational Psychology*, 1903, gave the doctrine of formal training its death blow. "But," says the article, "sad to say, in spite of the work of Thorndike and others on this problem of general discipline and in spite of a general agreement on the subject among scientific workers, the actual work in the schools is still based on the false doctrine. It is an illuminating example of the slowness with which the general mass of the people absorbs new ideas." Do we belong to the guilty number? Yes—not only with reference to this last-mentioned theory, but with much that is new in education. We turn away and say, "Not yet; it is impossible until courses of study are changed, until more materials are furnished, until classes are made smaller, until better buildings are built, until more time is given, and finally until the entire curriculum is changed." Granted that all this should be done, such work is the work of years. Much in our schools is left for the teacher to do. She alone is responsible for so much that is

done for the child, or could we not better say, it is she alone who has the privilege of developing certain desirable traits in the child?

The Junior High School, itself a new organization, has been ready to advance from traditional ideas, perhaps due to the fact that its organization is better adapted to the so-called new in education. Thinking teachers in those schools are all seeing the value derived from carefully and well-guided student government, clubs, socialized recitations, projects, supervised study periods, school papers, homerooms, and other activities.

But the elementary school with its differently planned organization and with younger children cannot to much advantage carry on these extra-curricular activities. I believe that the elementary teacher is seeing that much of this growth and initiative should be carried on right in the classroom—inter-curricular activities, if you like. The elementary teacher must lead the children to form the right attitudes toward study and to desire right ideals in life.

Subject-matter is of course important, but we should not be so much concerned with how many pages we have covered in a month nor how many of them the child can relate back to us as we should be with the impression made upon the child. Has the subject-matter been related to his own experiences of life in such a way that he feels the need of adding to these experiences? Has he responded in such a way that his entire vision of life has been made richer and broader?

We are living in a democracy, but in a growing and changing democracy. What we hope for is that men of the industrial, political, scientific, and professional fields will all learn to live together in such a way that this democracy will grow stronger and that its power will be used toward making this a better world. What we need is a body of teachers, principals, supervisors, and superintendents, characterized by initiative and cooperation, each contributing his share toward the one great aim—happy, useful living. What we will get then is an army of boys and girls seeing at least a part of our vision and actively working to carry it out. They will soon come to realize that happiness is not

just having one's own way and doing one's best but it is acting in such a way that others will be able to do their best. We talk of unselfishness, but I sometimes think that our very grading leads to selfishness. I have often wished that all children's record cards could show their progress in courtesy, dignity, self-control, helpfulness, and service, as well as their advancement in spelling, penmanship, and their speed in arithmetic.

It is a matter, then, of creating thoughts, attitudes, and appreciations rather than memorizing facts. It is a matter of teaching the child to live now rather than hoping that things learned will prepare for adult life. You may ask, "Are not teachers expected to follow closely courses of study mapped out for them?" No, I believe it was never intended so. Courses are being made more and more to emphasize the results or goals to be reached, and until such time when all emphasis is so placed, teachers should select from the courses that which best fits the needs of their own particular group of children. The efficient teacher not only sees herself which details are needed but through proper guidance makes her pupils see the needs which are to be met. By differences in needs I am not thinking of the differences in mentality, but the differences in out-of-school advantages. Many children have a wide range of worthwhile experience, and it has always seemed to me the duty of the teacher to make them feel their responsibility of sharing these with those who have not had them.

(Miss Roling then illustrated her theories with a relation of the experiences she has had trying them out in her own classroom.)

More and more am I seeing that this way of teaching boys and girls not only results in initiative, cooperation, and service, but develops in them a greater realization of the value of time and property, a respect for the opinions of others, a spirit of tolerance, an appreciation of the worth of others' good qualities and talents, as well as a certain likeableness often sadly wanting in children of this age, but nevertheless of inestimable value. I cannot but believe with Dewey who says, "The development and growth of the child is the ideal. It alone furnishes the standard. To the growth of the child all studies are subservient. They are instruments valued as they serve the needs of growth.

Personality and character are more than subject-matter. Not knowledge nor information, but self-realization is the goal. To possess all the world's knowledge and lose one's self is as awful a fate in education as in religion," and with Kilpatrick, "My aim as I work with children is to have them live more richly and successfully right now in the belief that this will mean most to them and to others both now and hereafter."

CURRICULUM-THEORIES OF ELEMENTARY EDUCATION AS RELATED TO THE TRAINING OF TEACHERS

WILLIAM C. BAGLEY
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The dominant interest of our profession in America today centers in the general problem of curriculum-revision. Our professional interests and enthusiasms, as we all know, go in waves. When I entered the work of teaching more than a generation ago, the dominant interest was in methods of teaching. In one form or another, this interest continued over a period of about fifteen years. Long before it subsided, however, another interest had been born and was gradually acquiring supremacy; namely, the interest in measurements. This interest continued to dominate until three or four years ago. Long before that time, however, a third interest was germinating. This is the interest in the curriculum-problem—in the *materials* of education—which now almost monopolizes the center of our professional stage.

There may be something profoundly significant in the rhythmic rise and dominance and decline of these interest-waves. The very alliteration—Methods, Measurements, Materials—may add force to the suggestion that, within a period of about thirty years our profession has run a fairly comprehensive gamut of educational processes and problems. On the surface, at least, this is not a bad record for a single generation. There is a suggestion, too, that we have been following a fairly reasonable sequence. We began with the simplest problem (if anything in our complicated field can be characterized as even relatively "simple");

and whatever may be said of the intermediate step, Measurements, we need labor under no delusions as to the difficulties and complexities of the curriculum-problem, Materials.

Our present problem, inherently the most complex of the three that I have named, is still further complicated by a new mode of attack. Thirty years ago, the solution of educational problems was in the hands of a few so-called "leaders." Today the attack on the curriculum-problem is a mass-attack. Throughout the country, groups of classroom teachers are busily engaged in curriculum-revision. In one city, the sum of $95,000 has been appropriated for a curriculum-study, and more than 100 teachers have been released from classroom service to give all of their time to this work. In other cities, special students of curricular problems have been employed to supervise teachers in the work of curriculum-revision. Large and powerful organizations such as the Department of Superintendence and the National Society for the Study of Education are devoting to curriculum studies a substantial part of their collective energies and a still larger part of their financial resources. I believe I am safe in saying that no movement in the history of our profession has compared with this movement in the amount of interest that has been generated or in the extent to which the movement has enlisted the efforts of the profession as a whole. It is of course too early to predict the length of this intense interest, or the ultimate outcome. We may be confident that much good will be accomplished. I am quite convinced that the essential democracy of the movement is a long step forward in the development of our profession. I gladly welcome any movement that gives to the teacher a new access of professional recognition, and especially a movement which accords to those who do the actual work of teaching boys and girls a voice and a vote in determining educational policies and programs.

On the other hand, there are dangers in any movement of this kind. Perhaps by recognizing these at the outset, certain unfortunate results may be anticipated and to some extent prevented. Along with some increments of unquestioned progress achieved by the two earlier movements to which I have referred,

each of these movements brought results that I should be loath to call progressive. I have referred on another occasion to the softening influences that operated on American education during the past generation. In my judgment, these have prevented education from counteracting the more general influences of the *Zeitgeist* which now finds so alarming an expression in our crime-rates. It is my conviction that our interest in methods of teaching during the later years of the nineteenth century and the first decade and a half of the present century contributed more than it should have done to these softening influences.

Again, take the measurement-movement. Together with much of value that has unquestionably resulted from it there has also been an equally unquestionable negative influence. I have the testimony of measurement-leaders themselves that the establishment of norms or standards based upon average achievement rather than upon ideals has frequently led us to be satisfied with mediocrity in the results attained by our pupils.

In each of these cases, I am sure that the increments of gain or progress contributed by the movement far outnumbered the increments of loss or retrogression. What is desired of any reform, however, is a maximum of gain and a minimum of loss. If by an anticipation of dangers we can reduce the losses, it is clearly the part of wisdom to take such a step. What, then, are some of the possible pitfalls into which our enthusiasm for curriculum-revision may lead us, and how may these pitfalls be avoided?

Let us consider first a simple and quite obvious situation. In the curriculum-theories that are most influential as bases for the present-day studies, heavy emphasis is placed upon the importance of having the elementary-school curriculum reflect the needs of the local community. Typical expressions of such theories are to be found in one of the introductory chapters of the *Third Yearbook* of the Department of Superintendence. For example:

> The second principle of curriculum-differentiation has to do with the child's environment. In rural districts the objectives of elementary education are not different from those of the city, but the means of reaching them and materials available differ from those in large centers of population... The ultimate purpose of elementary education is the same everywhere, but the content and method through which it is achieved varies. (p. 23.)

This particular chapter of the *Yearbook* is very careful to illustrate in what respects the content and method should vary, and the careful reader is impressed by the paucity of acceptable variations, especially in content or subject-matter. My point of criticism, however, is that the greater emphasis is given to variation with respect to local needs, while only a grudging recognition is accorded to the needs of state and nation. Upon analysis one finds that the sole effect of the chapter is the suggestion that the school should use its own environment as a source of educative experiences and illustrative materials. No one could quarrel with this suggestion. To raise it to the level of a principle of curriculum-construction, however, is misleading, especially when what is perhaps the most fundamental principle of curriculum-construction in the elementary field is thereby obscured. The outstanding function of elementary education from the social point of view is to integrate the people. It is certainly not to differentiate them into groups,—whether community, occupational, religious, economic, or what not. Other forces will look after that—some of them all too well. Our current curriculum-literature is shot through with eloquent phrases anent the importance of adjusting education to the changing conditions of society and to the new problems which these changes involve, but the "changing conditions of society" have accentuated social, occupational, and economic cleavages. The clear and incontestable "need" is for integration. The elementary school is the agency that can do most to bring this about, yet our current methods of curriculum-reconstruction may easily work in quite the opposite direction.

From another and less theoretical point of view, an overemphasis of localism in education is unfortunate at the present juncture. The assumption that the schools of a given community are preparing children for citizenship in that community *alone* is, of course, quite untenable. One of the most conspicuous characteristics of the American people is their mobility. The movement from the rural to the urban communities goes on unceasingly. There is every reason to believe that a substantial proportion of the children now living in the villages and the open

country will as adults be denizens of towns and cities. Furthermore, the movement from one city to another is very marked. The American people simply will not "stay put."

The California Curriculum Study attempted to construct an "index" of the mobility of the population in that state as a basis to determine the degree of state-wide uniformity in curriculum-materials that it might be advisable to recommend. The results of the investigation were startling. The average family in California apparently moves from one community to another once in every four or five years, and one fourth of the families seem to move once in every two or three years or oftener. (These figures relate only to moves from community to community; they do not include moves within the community.) It is highly probable that California's index of mobility is higher than that of most states. There is good reason to believe, however, that in the industrial states of the North Atlantic seaboard and the Middle West, the factor is one that curriculum-makers should consider. The vital significance of the factor is shown by the data regarding retardation. Difficulty of adjustment due to moving from one community to another was, in 1925, one of the five most important causes of promotion failure in the first eight grades of the California schools. It apparently had more serious retarding influence than absence due to illness, which Ayres found to be so significant a factor in his pioneer study of retardation nearly twenty years ago.

What is needed, then, in my judgment is some agreement among local school systems throughout the country as to the *grade-placement* of certain critical curriculum-materials. The most favorable grade-placement of the outstanding topics in the fundamental subjects such as reading, arithmetic, language, and geography, is susceptible of determination by scientific methods, and upon this problem I believe a great deal of intensive investigation should be concentrated within the next few years. This should not mean state-wide or nation-wide uniformity in all curriculum-materials. It should mean, however, a reasonable degree of uniformity in the grade-placement of curriculum-materials that are critical in determining school progress.

I am aware, of course, that a certain amount of curriculum-discussion today is predicated upon the assumption that the present materials of elementary education are merely the product of accumulated tradition; that there is no certainty that they are the proper materials; and that the great need is not for the correction and refinement of present materials but for an entirely "new deal" which will lead to revolutionary changes. There is no reason, of course, why one who believes this to be true should not express his convictions as forcibly as he desires. I should be the last person to attempt to muzzle free speech whether in politics, religion, economics, or education. On the other hand, I would not surrender my own right of free speech. Against the allegations of the radical "curriculum-reformer" I should array the following contentions:

1. The present elementary-school curriculum, whatever its faults, is not the product *merely* of tradition. It is in part the product of evolution. In the evolutionary process producing it, one may reasonably assume that certain materials survive because they have met a real need. When I find certain materials persisting under conditions that have both permitted and encouraged change; when I find certain materials reflected in school systems which have been in no way subject to a centralized educational authority; when I find the same basic core of materials present not only in the several thousand virtually independent school systems of our own country, but also in the elementary-school programs of all civilized countries: when all these things are true, I am surely justified in challenging the statement that tradition is solely responsible for what we are now teaching in the elementary school.

2. We very much need in American education, as I see it, more stability and less confusion. Our social and even our moral standards are in a chaotic condition. Within the next generation or two, some very vital and fundamental problems will evidently arise which the people as a whole must unite in solving; but the precise character of these problems we have no present means of knowing. What will be the best way to prepare for these unpredictable situations? Will it be to compound the present uncertainty and confusion by upsetting what little educational

equilibrium we have left? Will it be by introducing at once a new set of materials of untested value? Or will it not rather be an effort to reduce some of the confusion now prevailing? Will it not be an effort to simplify our programs, to admit that some things are obviously basic and fundamental, and to concentrate upon these with a firm faith in the virtues of a solid foundation as a basis from which to work upward?

What I have in mind here is by no means a discouragement of research and investigation regarding the possibilities of new organizations of teaching-materials. Such studies should be promoted just as rapidly as research-workers can be trained and techniques of research perfected. But I believe we should be extremely cautious regarding the wide acceptance of proposals for fundamental and sweeping changes not justified on the basis of proved success in other countries or of rigorous tests under experimental conditions here.

The experience of the past two decades has shown how far one may err in attempting to predict the precise needs of the future. Is it not obvious that basic education should concern itself largely with the fundamental materials that have persisted through all changes, and that, beyond this specific changing, general education should aim above all to make the individual *adaptable*, that is, to enable him to meet new situations with a rational attitude, equipped with as wide an acquaintance as we can give him with tested principles and the broader, well-established techniques of problem-solving?

What is the relation of all this to teacher-training policies? What should be the relation of the normal schools and teachers' colleges to the present interest in, and agitation for, curriculum-revision? Speaking only of the pre-service training of elementary and secondary teachers I believe that the policies governing this training can afford to adopt a frank policy of "watchful waiting."

Inevitably those who are enthusiastic about this or that curriculum reform will clamor to have their specific interests recognized by the training agencies and made the basis of extensive revisions in teacher-training curricula; but the training agencies have a clear responsibility here. I do not hesitate to

say that the normal schools in the past have been far too ready to take up and exploit new proposals. They have had their share in promulgating the softening doctrines to which I called attention last evening. It is my frank judgment that these pre-service training institutions are *not* the place in which to exploit every new movement that is proposed. I base this judgment on the result of thirty years' direct and intimate contact with educational theory and practice. The net result of this experience is a conviction that certainly one third of all proposals for radical educational reforms during these years have been sincerely well intended, but sadly mistaken—some of them, indeed, tragic errors; and that most of the remainder, through premature exploitation, have done much damage that might have been prevented by less impatience to put them into universal practice.

Some of my good friends have asked me how progress can be made unless the teacher-training institutions take up and exploit proposed reforms. There is, I think, a very good answer to this question. I have been speaking only of the *pre*-service training of our teachers. But we have now a vast machinery for *in*-service education. In larger and larger numbers our mature and successful teachers are enrolling in extension and summer courses. So widespread is this movement that from 20 to 30 percent of the public-school teachers in the United States will this year be enrolled either in extension courses or in summer sessions. It is to these mature and successful teachers that the new proposals should be intrusted for evaluation and, under certain conditions, for testing. This clearly provides one extensive and relatively safe avenue of progress.

Moreover, we have already a few experimental schools, and we shall probably have many more when it becomes clear that real experimentation is possible in education. With this growth in a truly scientific attitude toward the problem, educational progress will be assured far more certainly, and with fewer setbacks, than has been the case in the past.

Finally, I believe that every reasonable effort should be made to acquaint prospective teachers in normal schools and teachers'

colleges with the nature of outstanding proposals, and with a fair summary of the theoretical arguments for and against their adoption. I very strongly protest against a premature "loading of the dice." As I have suggested, the professional school, especially when it is a public institution, has a responsibility here that cannot be evaded or avoided. If you reply that my proposal loads the dice in favor of what now exists I should not deny the charge. If what now exists is a product of evolution, then any individual proposal for a radical departure from it *may* represent a striking advance; but the chances that any such proposal *will* represent a striking advance are very small. Variations, mutations, or changes of some sort are essential to progress, but in the realm of organic evolution it is by no means every variation nor every mutation nor every change that makes for progress. In social evolution, the wastage is far less, and can be further reduced by the application of intelligent evaluations, and still further by experimentation under controlled conditions. Even here, the wastage remains a serious factor, although the chances of progress are greatly multiplied by replacing trial and error and chance success by intelligent foresight and careful experimentation.

We need this process of careful experimentation as an aid to educational progress. Where the facilities for real experimentation are lacking, we need to check carefully the apparent effects of educational theory and practice on social conditions. We need a constant comparison of our school work with the school work of other countries, especially those which, rightly or wrongly, have declined to accept some of the doctrines that we espouse. I have tried recently to make such a comparison, and my sober conviction is that, in many important ways, our schools do not meet the test. This is primarily why, in the consideration of further sweeping changes, we may well adopt an attitude of caution, and why I suggest that the greatest need in curriculum revision today in our country is for some measure of simplification that will encourage a higher measure of thoroughness and permit a more stimulating exemplification of the ideals of serious application and worthy workmanship.

ENGLISH

J. V. Denney, *Ohio State University*, Presiding

REORGANIZATION OF THE COURSES IN ENGLISH IN THE HIGH SCHOOL

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Organization means bringing all significant factors into those relations that tend most strongly to bring about the desired ends. Hence organization is good in proportion as it is effective. But much depends upon the conception of ends. The machine may work, but the results may at the same time be relatively unsatisfactory or unimportant.

Something of this sort has long been the case with high-school English. In recent years we have witnessed hopeful improvement, but few would say that there is no further need of striving. The fact is that the organization of high-school English has been largely formal. That is to say, the choice and organization of subject-matter has been made with reference to academic rather than actual needs.

The most common and well-known type of organization is that based upon the so-called forms of discourse. Providentially there are just four years in the traditional high school and four recognized "forms" of discourse, narration, description, exposition, and argument. What is more natural than to assign one of these to each of the four years. Actually, of course, formality in organization has seldom gone so far. Nevertheless many still cling to the idea that narrative literature must be assigned to the semester in which the writing of narrative is to be taught.

A more vital principle of organization should be observed. Instead of seeking to make young people learned, let us try to give them a reasonable command of the vernacular in their present everyday lives. A large portion of those lives are passed in school. Very well, let us first ascertain what the most pressing needs of improvement in reading and in language expression are to be observed in the schools.

Oddly enough this has never been thoroughly done. Something is known as to spelling habits and correctness of grammar; very little, as to the organization of thought and efficient methods of reading. A careful and comprehensive inventory of the uses of English in school and of the actual difficulties which pupils meet in attempting those uses is the necessary first step in reform. In the absence of such a study the best considered suggestions for the reform of high-school English must be largely guess work.

The trail has been blazed for such an investigation. The report of the Clapp committee of the National Council of Teachers of English, while by no means final, displays a working method and presents at least tentatively a body of facts that have been well described as likely to shift the center of gravity of English teaching. Adults of all walks of life are questioned as to their use of English and as to their difficulties in that use. Of the twenty-six points into which the total use of English was divided, much more than half were found to be common. The difficulties, moreover, were widely distributed among college graduates as well as among persons with only a high-school or grammar-school education. Many of the most common needs in language both school and college have failed to meet; some of those needs they have scarcely attempted to meet.

Doubtless the uses of the vernacular by high-school pupils in their daily lives are very similar in scope and emphasis to those surveyed in the Clapp report. Whether they are or not should be definitely ascertained. When this has been done, the next step will be to discover what English teachers are actually aiming at and what adjustments, if any, in the course in English must be made to adapt it to the purpose of enabling the pupils to use English as a tool and as a joy to the fullest extent possible, not at some time in the future, but now.

Such a program, to be maximally effective, must include the setting up of more definite standards of attainment than we have at present. These should be in terms of actual behaviour rather than merely in terms of formal knowledge. To do is usually much harder than to say how to do. Hence samples of pupil performance will better serve as standards than lists of facts to

be known or rules to be observed. What may be done in composition is suggested by the specimens of the work of pupils which were included in the course of study for the elementary schools of Chicago. These were of a single type, oral narrative based upon actual experience, and they were freed of all mechanical errors. Five degrees of merit were represented in each grade, fair or passing, poor, good, excellent, and superior.

These samples were derived without the use of exact statistical methods, hence their values on a fixed scale are unknown. They do have the positive merit, however, of exhibiting the typical expression of pupils in the various grades and they avoid the confusion and uncertainty necessarily attending the use of general or impression scales, in which mechanical errors are present but not separately weighted.

The compiling of such a set of samples is in itself a useful experience for any group of English teachers. The process makes purposes clearer, brings out differences of emphasis, and tends to agreement as to what shall be regarded as good composition. Such an issue as to whether the samples shall be taken from oral or from written work is well worth debating and has far-reaching implications.

The reference in this discussion has so far been mainly to composition. The work in reading is quite as much in need of scientific study and functional reorganization. The issues are the same. What part does reading actually play in the daily lives of young people? How can it be made to play that part more perfectly? Piling up in cold storage various items of information about English literature appears to be of small consequence in view of the fact that both speed and comprehension of high-school pupils in reading are low. The reading procedures of those pupils, too, are largely unanalyzed and haphazard, and they are not consciously varied in view of change of purpose, difference of materials, or both.

To take a single phase, how many boys and girls in high school become adequately acquainted with the principle of suggestions in literary prose and verse—not suggestion as embellishment to be admired but suggestion as a mode of expression to

be understood. Young people of high-school age are often surprisingly literal, perhaps because they have been long habituated to answering questions of fact. Yet the appeal, the significance, of Shakespeare, Tennyson, and Stevenson are forever lost to him who cannot read between the lines and find in imagination the meaning of words whose definitions in the dictionary give no hint of their possible cannotations.

PROBLEMS OF JUNIOR HIGH-SCHOOL ENGLISH

EVALINE HARRINGTON
West High School, Columbus

This paper touches upon two problems of junior high-school English which confront every teacher in these grades. The first is the problem of unawareness. The junior high-school pupil is unaware of his own language and of any necessity for studying it. He thinks his everyday speech sufficient to meet his needs. He sees no connection between English as studied in school and the language of everyday life. To arouse a sense of awareness in the pupil and to show him how the rules of grammar were observed outside the schoolroom, the teacher asked the VII-B class to collect sentences from the headlines of newspapers and from the billboards. The headlines were analyzed and those that were pronounced complete sentences were pasted in the notebooks and the definition of a sentence written at the top. The pupils became aware of the sentence as written for the newspaper, and a connection between the grammar and the outside world was made. No headline relating to crime was submitted because they were told to disregard such. The billboard slogans were studied and the sentences among them were classified according to meaning. The Imperative sentence predominated because of its use in the salesmanship of advertising. From the advertisements in magazines, words illustrating the different parts of speech were cut and mounted on separate pages with the definition. The class responded to this method and all were made aware of grammar and word study in adult life.

The second problem of the junior-high teacher is how to overthrow the prevailing idea that one learns *unconsciously* to speak and to write his native tongue. Only by study and *conscious* effort can skill in the use of words be attained. It has been declared that the English outlines provide no definite course in composition.

Popular education demands that English be presented as a practical subject and as an asset in the social, business, and professional world. However, young students must be made to understand that a fluent and forceful use of the mother tongue cannot be gained casually but is the result of wide reading and persistent study.

PROBLEMS IN SENIOR-HIGH ENGLISH LITERATURE

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East High School, Columbus

We teachers of senior high-school English literature have all the problems that vex the teachers of the grades below and, in addition, a few special ones of our own. First, we have to teach the pupils who come to us how to read. "What, don't they know how to read?" you say. Yes, of course they do when the meaning lies on the surface, but we have to teach them that to read in the full sense of the term means to ascertain the author's meaning when it is not so evident.

In the second place, we have to try to lay in the minds of our pupils a catholic taste in literature. Arnold Bennett says, "He who has not been introduced to the freedom of literature has not been wakened out of his pre-natal sleep. He is simply not born yet." Without doubt it is our duty to make the introduction. To do so requires tact and skill and patience. Some do not like to read and frankly say they have never read anything except what is required of them in school. Others like this but do not like that. If we succeed in getting such as these to read and to enjoy all kinds of literature, we have really achieved something. Then, we can do something to develop in boys and girls

of senior high-school age a discriminating taste in literature. Some interesting experiments toward that end have been recorded in the *English Journal*, as most of you know.

Another thing we senior high-school teachers have to do is to bring our pupils to see the connection between literature and life. To most of them the world of books is entirely separate from the world of actuality. They cannot interpret literature in terms of their own experience. We are to teach them that human nature is the same yesterday, today, and forever, and that an author is great in the degree that he faithfully holds the mirror up to nature.

Still another part of our duty is to teach our pupils to loiter in the pleasant fields of literature. As classes come and go year after year, I am reminded of the traveler who rode post haste through the country and saw nothing in his eagerness to pursue what was yet out of sight. We English teachers are too much like that traveler—we attempt so much that we do nothing thoroughly. Our eyes are always fixed on what is ahead. I have heard teachers say, "I covered the assignment, but I had to race to do it." It is safe to say that the last state of their classes was worse than the first. But suppose we have done all these things and done them well. To what end? To the end that those whose destinies we, to a considerable extent influence, may feel at home in the great and noble society of good books. That is the sum of the whole matter.

HIGH-SCHOOL PRINCIPALS' ASSOCIATION

J. L. G. Pottorf, *Principal, McKinley High School, Canton,* Presiding

EFFICIENCY IN CLASSROOM PROCEDURE

J. B. Edmonson
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I am aware that my topic is not popular because it contains that much overworked and commonly hated term "efficiency." It is generally known that many teachers and administrators openly resent a discussion of their work in terms of its "efficiency." I sympathize with this attitude as I am convinced that our discussion of classroom efficiency is too frequently carried on in terms of those principles that are more applicable to workers with materials in shops or factories than to the artist-teacher dealing with boys and girls.

In my discussion of this problem, I intend to restrict my very broad topic to a consideration of some ways of increasing the effectiveness of classroom procedure. I am limiting my subject in this way because most of the members of this audience are engaged in supervisory or administrative work and are, therefore, vitally concerned with devising effective ways of raising the level of classroom work.

The best definition in my opinion of the efficiently conducted classroom is the statement formulated by Colvin. It reads: "No teacher should be content with an average class, or a satisfactory class. He should strive to have each and every class working under conditions of maximal efficiency. He should constantly keep in mind the fact that *no class is doing its best unless all of its members are engaged during the entire recitation period in actively performing work that is distinctly worth while.* Such ideal conditions can probably never be completely realized, but they can be approximated."[1] It seems to me that Colvin has presented a splendid ideal of teaching efficiency to

[1]Colvin, S. S. *Introduction to High-School Teaching.* New York, The Macmillan Company, 1924. p. 128.

place before a corps of teachers. The difficulty of attaining the ideal is apparent, certain policies and practices will contribute much to raise teaching above the average and cause it to approximate the ideal of teaching efficiency as defined by Colvin.

My first suggestion for raising the efficiency of the work of a school relates to the very careful selection of teachers. This suggestion is not new, but my work as an inspector of schools convinces me that emphasis on it is very much needed. I know that you will agree that the quality of the teaching efficiency of a school is largely determined by the native ability, training, and professional spirit of the teachers. This truth is so evident that it may seem trite. It is, however, very evident to me that a high degree of classroom efficiency is never attained in some schools because the employing authorities do not engage the right type of teachers. There is too little of hunting and searching for high-grade teachers in the typical school.

In my visits to schools, I usually find three classes of teachers. The first class which is not first in order of value to the service, might be described as the "job teachers." These teachers do not look upon teaching as a profession but rather as a makeshift occupation; possibly the women in this class think of teaching as offering an opportunity to repay college indebtedness, secure money for new clothes, or to bridge the gap between college days and married life; possibly the men in this class think of teaching as giving time to find another job. Teachers in this class feel that the purchase of a new book on educational method or the taking of an educational magazine is an unwarranted drain upon their financial resources. Such teachers consider that institutes afford a holiday or a chance for a shopping expedition and resent the efforts of supervisors to carry out the real purpose of such meetings. I recall visiting a teacher of this "job teacher" type in a Michigan school and in answer to my question as to her plans to continue her training beyond the required six weeks she replied, "Six weeks of training is enough for any teacher. If I could not teach on that amount of preparation I would get out of teaching." Teachers in this "job-teacher" class handicap the profession seriously as they tend to bring it into ill repute among the

more progressive and well-informed school patrons. In my opinion the "job teachers" constitute a most serious hindrance to the better salary schedules, more adequate tenure provisions, satisfactory retiring allowances, and higher standards of classroom work. May I also venture the opinion that those of us responsible for teacher-training work are, to a marked extent, blamable for the existence of this class of teachers because of our failure to place the proper emphasis on the right professional ideals and obligations. If employing authorities fill the teaching positions of a school with teachers from this class, it is an almost hopeless task to try to maintain a high level of teaching efficiency. Even a few teachers of this class will greatly impair the morale of a teaching staff.

The second class of teachers is sometimes spoken of as the "service-meter teachers." These teachers return a carefully estimated service for a certain sum of money. This may be increased by a change of salary or some other type of reward. Such teachers are willing to improve provided there is sufficient inducement. Teachers in this class are willing to attend institutes, read educational magazines, attend summer sessions, cooperate in movements designed to improve the schools, provided there is a sufficient financial return guaranteed in advance. A good school may be carried on with the service of teachers of this class, but the profession cannot look to this group for leadership.

Now, the third class of teachers could be described by any experienced principals or superintendents. They are as familiar with the "professionally minded teacher" as I am. They have associated and trained such teachers. It is unnecessary for me to emphasize the pleasure that comes from working with a teacher who teaches for love of the work, whose desire to improve far exceeds strength or financial resources, and whose interest in professional matters is strong and stimulating. Such teachers inspire supervisors and associate teachers. It is difficult, if not impossible, to estimate in salary terms the value of these teachers.

In the selection of teachers, administrators have their finest opportunity to increase classroom efficiency. In a school where it is the practice of the employing authorities to employ teachers

without carefully investigating their classification as "job teachers," "service-meter teachers" or "professionally minded teachers," the standards of classroom efficiency may be satisfactory one year and very unsatisfactory the next. If administrators would spend more time hunting for the highest type of teacher, the average of classroom instruction would be greatly improved. The first point, therefore, that I wish to emphasize is this: The efficiency of classroom teaching is largely determined by the success with which employing authorities select teachers. This observation is not new or radical; I find, however, that many school executives still seem willing to allow the law of chance to have free play.

I have frequently stated that I could greatly increase the efficiency of instruction in any high school of twenty teachers if granted the following privileges: (1) a free hand to select the members of the high-school staff; (2) freedom to use at least ten days and to expend at least two hundred dollars for traveling expenses in seeking promising teachers; (3) freedom to offer a teacher one hundred dollars more than the average salary in schools of equivalent rank. Any high-school principal will agree that he could increase the efficiency of instruction in his own school if he were granted the foregoing privileges. Unless a principal has large freedom in the selection of teachers, he should make it his first duty to seek to induce the board of education to grant him the equivalent of these privileges.

My second suggestion for increasing the effectiveness in classroom work of a corps of teachers relates to the avoidance of certain practices and policies that tend to undermine morale and impair the efficiency of teachers. It has always interested me to find that teachers of the same training and approximately the same promise of success are far more successful in one school system than in another school system of the same general rank. I have found it instructive to seek a partial answer to the question, "What administrative policies and supervisory practices tend to impair the teaching efficiency of the members of a high-school corps?" As I have analysed school situations, I have particularly sought to discover these bad practices in order to caution others to avoid them. There is much bad practice in

the handling of pupils and teachers. I am listing herewith a statement of some of my findings. I have not attempted to secure data showing the relative importance of each of the policies and practices in this list of findings, though such a study would be of real value. The list as it stands has two values: (1) as a list for checking the practices and policies of a school; (2) as a statement showing the need of devising more effective policies and practices.

PRACTICES THAT IMPAIR EFFICIENT CLASSROOM TEACHING

1. The policy of assigning such large numbers of pupils to teachers as will discourage attention to the individual needs of pupils.
2. The failure of the principal to acquaint beginning teachers with the scope of work to be covered during a semester and the standards to be maintained.
3. The failure of principals to require that teachers devote a minimum amount of time to specific training in the habits of work peculiar to the different studies.
4. The failure of the school authorities to regulate the social and athletic activities of the school in the interest of classroom work.
5. The failure to provide substitutes *promptly* rather than to allow the teachers or the principal to assume the work of an absent teacher.
6. The failure to settle promptly the cases of classroom discipline referred to the office of the principal.
7. The failure to adjust the teaching load according to the experience and health of teachers.
8. The failure to cultivate a spirit of friendliness and team work among teachers.
9 The failure to centralize administration and to confine such functions to the central office.
10. The failure to carry on supervision in such a way as to eliminate fear.
11. The failure to enlist the hearty cooperation of all of the teachers in carrying out some definite plan of training students in right habits of study.

The foregoing statements are taken from a longer list that I have gathered in my study of high schools. It is not a very encouraging list, but I hope that the reading of it has not created too much disappointment and pessimism in your minds. I am frank to say that I would hesitate to present this material to a group of inexperienced teachers. I believe, however, there is a certain value in directing the attention of experienced administrators to the questionable policies and acts of neglect that decrease the efficiency of teachers. I hope it has occured to you

that it is comparatively easy to change each statement of failure into a statement of commendable practice. If by any chance, any of you dislike the negative way of calling attention to needs, I hope you will re-state the policies and practices in positive form.

I want to explain briefly a few indictments in the list. Let us take the first statement which reads: "The policy of assigning such large numbers of pupils to teachers as to discourage attention to the individual needs of pupils." I am certain some of you will say a principal is not responsible for the situation referred to in this criticism. I beg to disagree with this point of view. I have too frequently visited schools where the total number of pupils assigned to teachers of history or English varied somewhat as follows: Miss A, ninety pupils; Mr. B, one hundred pupils; Miss C, one hundred and forty pupils; Miss D, one hundred and fifty-five pupils. It is apparent to those who have built schedules that the principal is clearly responsible for such an unequal assignment of pupil-hours. In turn, it is not uncommon to find four sections in English X-B with numbers as follows: twenty, twenty-eight, thirty-two, and thirty-five. This illustrates the failure of the principal to make proper adjustments to avoid overloading certain teachers. I readily agree that some teachers can handle more pupils a day than other teachers and can instruct thirty-five pupils in one section more effectively and with less strain than can other teachers with only twenty-two pupils in a section. If I were convinced that principals took account for differences in experience, health, and general ability in the assignment of the larger numbers, I should not raise the questions implied in the foregoing statements. I am not convinced of this in all cases as I find too much evidence that schedules are made in terms of convenience. I do not believe that the problem of the teaching load is entirely a matter of high or low pupil-teacher ratios. I believe it is largely a problem of the proper adjustment of the pupil-teacher load in terms of training, experience, health, and extra classroom demands of the different members of the staff.

The fifth item of the list reads: "The failure to provide substitutes *promptly* rather than to allow the teachers or the principal to assume the work of an absent teacher." I know of

several schools in my own state where all substitute work is performed by the teachers in the school. Not long since, I was asked to give advice on the following situation: In a certain school the teachers were called on to carry the work of associates in their absence. For this service, the teachers were paid one dollar a class-period of instruction. It not infrequently happened that one or more teachers, during certain months of the year, received twenty dollars per month for substitute work. In presenting this problem to me, the president of the board of education questioned the wisdom of allowing teachers to teach six classes for their regular salary and an additional class for the extra compensation. He said, "If teachers can teach seven classes for twenty dollars more per month than it would be necessary to pay them to teach six classes, why not increase their salary by twenty dollars and increase the number of classes from six to seven?" Needless to say that I did not agree with this reasoning, for I am certain that teachers cannot have any considerable number of extra classes added to a full load of work without impairing either their own strength or the efficiency of the teaching in their regular classes. I, personally, do not believe it is good policy for the principal or the teachers to do all the work of absent teachers except in emergencies.

I wish to direct your attention to number nine which reads: "The failure to centralize administration and to confine such functions to the central office." It has been my observation that high-school teachers and even college instructors are more worried and disturbed by minor clerical duties than by many of their regular duties as instructors. It is surprising how much mere clerical work is "farmed out" to teachers in many of our schools. I have full sympathy with the practice of involving teachers of real administrative ability in matters of school management. I believe, however, it should be recognized that much administrative work is little more than high-class clerical work, and many of our best teachers do not have the training to perform such work. It has always appeared to me as a great waste of teachers' energy to require them to post final records, copy reports, make lists and titles of books, check attendance rolls,

and telephone messages to long lists of school patrons. Many of you will immediately say that it is very difficult to secure an adequate amount of clerical help and I fully appreciate this difficulty. In fact, that part of the present standard of the North Central Association relating to the definition of pupil-teacher ratio was adopted to make it easier to secure the necessary clerical help. I refer to the part providing that clerks may be counted on the basis of two clerks for one teacher.

The last one of the statements in the list reads: "The failure to enlist the hearty cooperation of all of the teachers in carrying out some definite plan of training students in right habits of study." The loss arising through failure to correct this deficiency is so evident that I shall not take time to explain a possible way of avoiding it. Many articles on this subject have been published, one of which you will find in the March issue of *School Life*.[2] You can secure a copy by sending five cents to the Superintendent of Documents, Washington, D. C. In this article a plan for training students in better habits of study is explained. The plan is operating in scores of Michigan high schools and is netting fine results. It is doubtless sufficient to enumerate the other questionable policies in my list in order to cause experienced executives to avoid them. It is a little short of a crime to waste fine teaching talent through the policies included in my list of indictments.

I wish to recommend, as a third way of improving the efficiency of classroom procedure, the practice of bringing to the attention of teachers such stimulating and helpful materials as may be gleaned from the writings of experts in the field of teaching and related kinds of work. I am convinced that one way to increase the efficiency of classroom teaching is to bring to the attention of teachers, positive suggestions concerning effective ways of presenting materials, organizing pupils, and solving the various problems of classroom teaching.

Many teachers of good ability are not meeting an acceptable standard of teaching efficiency. Of course it is true that few

[2]Edmonson, J. B. and Goodrich, C. L. "State-Wide Plan for Use of Study Helps in Michigan High Schools." *School Life*, 11:137, March, 1926.

individuals in any line of work maintain a high average of efficiency for a long period of time. Most of us exhibit "spurts of energy." As supervisors, therefore, we need to give much attention to those practices that stimulate teachers to maintain a relatively high level of teaching efficiency. As an example of the kind of material that I believe is helpful to teachers, I have placed in your hands a series of suggestions for classroom teachers and school executives taken from the writings of experts in the field of business efficiency. These suggestions were secured by students in certain of my courses in the School of Education at the University of Michigan. They were given this specific assignment: "What recommendations of experts in the field of business efficiency are applicable to classroom teaching and school management?" They were directed to examine books, special reports, and magazine articles, in the field of business management. The reports returned included a list of one hundred and fifty different suggestions. It seems to me rather significant that students should find so many valuable suggestions for teachers in the writings of authorities in the field of business efficiency. The list suggests that the work of the teacher in directing and managing the activities of pupils is similar to that of business executives in managing and directing the activities of their workers. I have sometimes felt that it would encourage teachers if we emphasized this fact in a discussion of teaching efficiency. The list may be used to advantage in making comparisons between the supervisory, administrative, and instructional policies of the school and the recommendations of the business world. The list may also be used by the individual teacher in evaluating his own practices and procedures in the classroom.

1. Be human. If the company merely wanted to disseminate information, it would use a catalog, not you.

2. Be dependable. If you tell a man you are going to do a thing, do it.

3. Eliminate fear. If one makes mistakes, don't criticize him for it for the best of us make mistakes, but he should have an unpleasant time of it if he makes the same mistake twice.

4. Take into consideration personal traits and habits.

5. Make it plain. Get a grasp on the fellow you are talking with. Answer his questions without looking at your books, charts, or tables.

6. While it is true that most men will lose interest when they are scolded or found fault with for a mistake, it is equally true that they will go at their work with renewed vigor if they are commended for something they have done.

7. Rewards should be in exact proportion to effort and accomplishment, both as to the quantity and quality of the work.

8. One of the secrets of the efficiency of tact lies in the fact that it is the expression of sympathy.

9. Develop an *esprit de corps*—the American conception of teamwork, plus pride of organization.

10. It is not only for his satisfaction that the worker should see his records and realize that his work has permanence, but also for comparison of his work not only with his own record but with the work of others.

11. There should be a bonus to discourage absences and tardiness, as well as to reward the accomplishment of a standard quantity and quality of work in a given time.

12. Be sure that your appearance is neat and businesslike. Your compensation will be proportionate.

13. Let us lay down as a fundamental law that every waste has to be paid for, and that when brain power, sane faith, enthusiasm, and physical or machine energy are wasted, society must pay the bill.

14. Too much detail with too many rules and regulations should be avoided, as it serves only to impede the smooth operation of any plan.

15. Irregularity is the most potent cause of waste.

16. Add interest to the work by showing the progress made in every possible way.

17. All tasks should reveal enough variety of work to keep well balanced.

18. Rest periods must alternate with periods of concentrated effort.

19. Reserve the best hours of each business day for the hardest job.

20. Be a firm believer in the efficiency of the "square deal" and a sympathetic interest in individuals for holding the force together.

21. An executive should always be open to suggestion and advice.

22. Get under way promptly; keep under way to the close.

23. Use a card index for the memory—a desk drawerbox having cards for every day in the month upon which to write things to be attended to in the future.

24. The efficiency of discipline depends upon developing in a body of men such confidence on the part of each individual that every other person will play his part.

I assume that all of you see the possibilities of applying many of the foregoing suggestions to the work of teachers and school executives. There is valuable advice to teachers in the first statement which reads: "Be human. If the company merely wanted to disseminate information, it would use a catalogue, not you."

There are other kinds of stimulating material that principals may use to advantage in causing their teachers to seek improved methods of instruction. The teacher-rating cards may be used to acquaint teachers with desirable practices. I wish to call your special attention to the score card published by the Bureau of Municipal Research of New York City. This card has a challenging title which reads: "To help teachers discover their own strength and weakness." This score card, I understand, was devised for use in the Ohio Survey of a few years ago. I have urged principals in my own state to give copies of this score card to their teachers with the direction that it be used for checking the teachers' own activities in the classroom. I believe that score cards and rating cards may be used to advantage in stimulating teachers to improve. I know, however, that score cards may be used to defeat this purpose. One reason that I recommend the score card referred to above is that I approve of its general purpose which is to help teachers discover their own strength and weakness and to assist supervisors to help teachers where the need is greatest.

If my time permitted, I should like to discuss the value of framing standards of classroom practice and the value of demonstration teaching and other kinds of supervisory work of a creative kind. I hope, however, that I have succeeded in causing you to consider seriously three of the principal ways of increasing the efficiency of classroom procedure.

In conclusion, I wish to remind you that I have attempted to emphasize three main points: (1) that one of the most effective ways to improve classroom efficiency is to devote more attention to the careful selection of teachers; (2) that certain bad practices in the handling of pupils and teachers impair the teaching efficiency of a staff; (3) that it is possible to use rating cards and lists of successful practices that encourage teachers to maintain higher levels of teaching efficiency. Having directed your attention to these three generalizations, I wish again to remind this group of principals that they have a very large responsibility for the standards of classroom efficiency because of their authority in the selection of teachers and because of their control of the

training of teachers in service. There is no "cure-all" remedy for ineffective classroom teaching. It is a condition that is corrected only by careful selection of instructors and by creation of those conditions that experience has found to be most favorable for carrying on the best kind of classroom work.

AN OLD FASHION REFASHIONED

HUGH R. SMITH
Principal, North High School, Akron

Dr. Judd, of Chicago, holds that every high-school student is entitled to a "friendly talk" with his principal at some time in his school career. No one will seriously disagree with this contention. All will interpret this "friendly talk" to mean one or more interviews with a student in an effort to solve, in a worthwhile way, the student's present and future problems.

In large schools, principals do not have the time to carry out Dr. Judd's idea with the entire enrollment. By organizing the subject-matter of these interviews under various heads and publishing them in separate bulletins, they may, however, extend their personal contact considerably.

The student receives one or more bulletins pertaining to the subject of his interview on the day preceding it. From the study of these bulletins he knows what the trend of the "friendly talk" is to be. In the actual interview it is possible to reach the main issue immediately, since the usual preliminary conversation in which a common background between the principal and student is established, has been obviated by the bulletins.

A greater number of students can be met in a given time without that feeling of loss of effectiveness that comes from a repetition of similar questions and answers in gaining a common understanding.

The bulletins are effective as outlines of the "friendly talks" and take the edge from the necessary personalities.

THE WORK OF THE NATIONAL COMMITTEE ON RESEARCH IN SECONDARY EDUCATION

W. B. Bliss
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It is possible that there are high-school teachers who are not at all interested in educational research and who consider that no significant results have been produced by research activities. The man who is cocksure about his own empirical judgments will be disposed to take that attitude. The principal who has seen a storm of questionnaires descend upon him, white as snowflakes but tremendously more ponderous, is likely to view research as a dubious process.

Of the many gradations of quality in research studies in education, the questionnaire type of survey is not always the most efficacious. Questionnaires indicate the trend of present practices and present a picture comprehensive enough to eliminate the error of reasoning only from facts as they exist in a limited area. Unless whatever is, is right, however, there will be need for research of an experimental type.

If the amount of research being done in secondary education measures its necessity, there is plainly much less need for research on high-school than on elementary problems. It is not clear to conclude, however, that such is the case. From the standpoint of broadened curriculum, the pupil transformations that adolescence brings, discipline, recreation, special activities, and several other items, the high school must face greater problems than the elementary school. Research can help solve them. The high-school principal may feel that he has no room left in his crowded schedule of activities for a research program, and yet it may be the most vital activity of all. The high-school principal need not be a man of research, but he can see the imperative necessity of research and can go to the educational specialist or the experimental worker for many of his answers. He can encourage research interests among his teachers. He must always solve problems—research helps him to do it scientifically.

Research being as desirable as most people agree and its results being as far-reaching as they actually have been in the past, there is a clear need for some organization that will stimulate more of such activities, initiate studies of its own, and provide a convenient clearing house for the results so that the benefits of all significant studies may be rapidly extended to schools everywhere. The National Committee on Research in Secondary Education, which is just rounding out its first year, is such an organization. Its announced purposes are five in number:

1. To arouse those engaged in the field of secondary education to consciousness of the need for research and to stimulate them to purposeful research activities in this field.
2. To initiate investigations bearing upon secondary-school problems.
3. To advise and aid in investigations initiated by other agencies.
4. To coordinate research activities carried on by agencies interested in secondary education.
5. To act as a clearing house of information and results pertaining to research in secondary education.

A considerable mass of research material is being piled up in various places which ought to be generally disseminated. Out of the mass of inflorescence born to blush unseen in the dark cloisters of graduate schools, no small amount might serve a purpose even more practical than bait for a degree. An organization such as this National Committee cannot only put color into the more promising of these sun-bereft research buds, but can plant a few seeds of its own and see that they mature under more nearly natural conditions.

Since the Committee has been in existence less than a year it is not possible to offer any extended list of achievements, but real progress has nevertheless been made. A ninety-five-page bibliography has been prepared listing significant research studies with brief, explanatory comments indicating the nature of each. This bibliography is published by the United States Bureau of Education. The special committee on small high schools has under way a study of junior high schools in rural and small school

communities. Four hundred junior high schools in rural communities have agreed to furnish the information needed for this study. The investigation will deal with the general organization, the mode of administration, supervision, extra-class activities, program of studies, provision for individual differences, and buildings and equipment. The special committee on large and urban high schools expects to launch at once into a study of one or two problems that have been decided upon by the committee members. The sub-committee on current research undertakings has already submitted a bibliography, which lists three hundred and sixty-six researches now under way in schools of education, research bureaus, state departments of education, and educational organizations or foundations. The special committee for study of the characteristics of high-school pupils has outlined its program to involve a study of social status, educational characteristics, mental traits, certain character traits, and possibly certain physiological traits of pupils at various levels of secondary education. The special committee created to draft an outline of procedure in research, has completed the preliminary draft of a report which is to be published by the Bureau of Education. This outlines a practical research procedure, stated insofar as possible in non-technical terms. The Commission on the Reorganization of Secondary Education which several years ago drafted the widely accepted "Cardinal Principles of Secondary Education," performed a notable service. This new committee, which keys its attack to the scientific attitude of the third decade of the twentieth century, may reasonably hope to render a service in the field of fact-finding and experiment quite as notable as did that earlier commission.

CO-RELATION OF RELIGIOUS TRAINING AND THE SCHOOL CURRICULUM

Blanche Carrier
Supervisor, Schools of Religion, Dayton

Let me define what I have in mind in discussing religious instruction. I am not thinking of a course in Biblical history or literature, nor of a series of lectures by a local preacher in which

both attendance and attention are voluntary, but of a credit course which will command and deserve the pupil's time, study, and respect. It should be a real study of Christianity which will prepare the child for efficient Christian citizenship both in his present school life and in adult responsibilities. Such a course should be elective, taught by one who meets the school qualifications but is not employed by the board of education.

Several subjects in the curriculum make a splendid contribution to the religious instruction of the pupil. They can be used by the teacher of religion, or by the teacher of the subject, or both. We shall mention but four of these:

1. Literature is full of significant experiences from which the student may draw conclusions which vitally affect character. *Silas Marner*, for instance, shows us the inevitable result of an ingrowing life. He illustrates the works of Jesus, "Unless a grain of wheat fall into the ground and die, it abideth by itself." When he gave of himself, he lived.

2. History will directly help the pupil as he compares Egyptian and Babylonian history with the Old Testament and Roman history with the days of Jesus; and a deeper understanding of the ambitions, the progress, and the fall of one nation on another may lead him to discover the principles which have brought success and the great personalities from whom these principles have emerged.

3. In science, we have a few rare teachers who can help to overcome the confusion which has been caused by the false separation of science and religion. Happy is the teacher who can so harmonize them in the mind of the pupil that he may build upon the unity of God's universe.

4. Civics may be of great value. Our growth in standards of caring for the unfortunates has a direct relation to the Christian ideals of our national leaders. We must develop a sense of high idealism toward public office. We must recognize the growing interdependence of people and nations, and so prepare for world peace.

The greatest way in which we may find a co-relation is through the attendant learnings, the concomitants, which are such mighty

character builders. Every department—manual training, mathematics, stenography—is constantly training one kind of character or another without saying a direct word about it. The sad fact has been, and let me say this with no sense of criticism but with a purpose of helpfulness, that our teachers, accustomed to the self-direction of college days, have forgotten the immaturity of the high-school pupil. In the hands of the teachers is the solution or the problems of immorality, drinking and petting parties, and other grave tendencies. Opportunity for guidance comes easily to the teacher who is a sympathetic comrade but who is not afraid to stand for high ideals. The hunger for adventure can be turned toward the achievement of high, clean character. The teacher of religion and the teachers of other subjects should work together on this great opportunity.

OUR HIGH-SCHOOL ATHLETICS—HOW THEY MAY BE IMPROVED

H. R. Townsend
Commissioner, Ohio High-School Athletic Association

The Ohio High-School Athletic Association, now twenty years old, has become the largest state athletic association in the United States. Last year 797 high schools were members; to date 915 schools hold membership, an increase of 118 schools over last year. In most of our 915 high schools, athletics are on a sound and optimistic basis. From the standpoint of higher standards, good sportsmanship, participation, and public interest, the general outlook is encouraging. Many believe that the marked improvement in athletics in all parts of the state during the past five years has been largely due to the wholesome influence exerted by the State Association.

During the past year athletic fields have been acquired, high schools with large and commodious gymnasiums have been erected, and in several localities separate gymnasiums have been constructed. In a few communities, bond issues have been approved for athletic fields, stadiums, and gymnasiums. In these

days of burdensome taxes this is eloquent proof that the taxpayers and voters are willing to pay the bills for athletic equipment adequate to the needs of their communities. Of course this situation does not exist all over the state, but it is more prevalent than it was ten years ago. In several high schools erected at that time no gymnasiums were provided, because otherwise competent school men with their boards of education regarded such as foolish expenditure of the people's money. Few high schools are being erected without gymnasiums. I believe that the state should never approve the plans of any junior or senior high school or even a ward school that do not provide gymnasiums.

Do not get the impression from this that high-school athletics in Ohio are ideal and leave nothing to be desired in the way of improvement. Athletics, like any phase of human activity, are not perfect nor will they ever be. Those of us who are familiar with the situation know that there is much room for improvement.

Our Objectives Should be Well Defined

Just now we all need to conceive more clearly what we are trying to accomplish in our athletic programs by some definite, clear-cut objectives. Athletics must be accepted as a definite part of a well-balanced, educational program.

The public generally approves the present status of interscholastic athletics, even though it regards them only from the entertainment standpoint; it has little conception of their educational values. With equal propriety the same may be said of too many of our school men and women. The public and even school officials have not yet seen the value of a well-balanced, athletic program as a distinctly worth-while educational asset to the school and community; to them the winning of games seems to be the sole objective. It is our duty as school administrators to put on a campaign of education whereby the public may be informed of what properly supervised athletics may do for the teams, the school, and the community. Much of the trouble which we have over high-school athletics comes from the public. If our public causes us trouble, it is rather sure proof that we or our predecessors have been derelict in our duty. Most of us have

found that the public is responsive when approached in the right way.

It was actually dangerous for any coach to take a team to a certain city a few years ago. The most fortunate thing that could happen was thorough defeat for the team very early in the game. Even then the boys were not safe until they had left town. Officials were insulted, players mobbed, large sums of money bet on the game, eligibility rules ignored, and good sportsmanship trampled under foot. Because they knew no better, the majority of the citizens felt that any way to win was perfectly legitimate. The community lacked leadership. The principals were weak, inefficient, and feared for the security of their jobs. Back of most bad athletic situations one may expect to find men of this type. In time, these two men went the same way that such men always go. The newly elected superintendent had strong convictions, good judgment, and tact. His first move was to get a competent principal, and a good coach, who knew what real sportmanship is. The high school soon responded. It was the smaller of his problems. His next move was to secure the cooperation of the local paper, which had been one of the prime instigators in fomenting and abetting this notorious situation. The superintendent knew and valued the influence of the press in helping to create the right kind of athletic atmosphere in his city; he knew that a rabid, partisan, unfair account of athletic events can start a civil war between the communities. After some effort he secured the support of his paper. Editorials now began to appear denouncing the treatment of visiting teams and other athletic evils. The reporters in their accounts of the games began to recognize the good work of players on the opposing teams. Whenever the opportunity came, talks were made in churches, clubs, lodges, and the schools, on proper athletic ideals. To make a long story short, the superintendent, the principal, and the coach working together in three years' time made this city noted for its fair treatment, and sportsmanlike conduct and courtesy to the visiting teams. It is especially noteworthy that during this time the high-school teams of this city won more games than they did under the old régime. What these men did

can be done anywhere under the right kind of leadership. If the best people of our city are not interested in our high-school athletics, we are perhaps to blame. It is easy enough to get the support of the so-called sporting element, which backs only winners, but it requires some effort to interest the substantial class. High-school athletics should always have the support of the best element in any community, not the worst.

Athletics can do much to pull a community together. A wholesome civic spirit has been developed in many vicinities through the support given the team by citizens who because of athletics first became really interested in the schools. The right kind of athletics is a fine advertisement and indicates a good school system. Many a city has first become conscious that it had good schools by the activities of the school teams. Men who could never agree on anything else have been known to cooperate with one another in backing the high-school team. In most places athletics furnish the main contact between citizens and the schools. When our boys make out-of-town trips they are our community's and our school's representatives in every sense of the word. Boys who play a gentleman's game of hard, clean sport usually come from good high schools and good communities.

Leadership is the key to the athletic problem in the school and community. If we really desire our athletics to occupy the position to which they are entitled, we must educate our public. The latter must be taught that athletics are not maintained solely for their amusement and recreation. They should know something of the educational value of a well-arranged athletic program. Only a little time and effort will be necessary on the part of the school authorities to furnish the right kind of leadership and to accomplish anything worth while, one must have the support and cooperation of the community. The public under a little leadership of the right kind delights in fair play. All communities want to win, but most of them want to win fairly.

It is not within the scope of this paper to present in detail the objectives of high-school athletics. They are best set forth in the Michigan High-School Athletic Association report of 1925

much of which has appeared in the bulletins and *Ohio Schools*. There is plenty of literature on what should be accomplished, but little on what actually has been accomplished in high-school athletics. Many of us believe that the whole field of athletics is far from a scientific basis. Some one should establish scientific standards which can be backed up by cold hard facts. Most of us feel that athletics as now conducted are fundamentally sound, but we have very little scientific and accurate information to prove it. If we are on the wrong track, we will gladly welcome someone competent to put us right. But who is competent? The whole subject needs definition. It is quite fashionable in some parts these days to attack high-school and college athletics. One hears that our basketball and track tournaments are not good for the boys; high-school athletics burn out boys and give them athletic hearts; and the athlete dies young. One hears also that the schools and colleges are over-emphasizing athletics; that athletics are commercialized; that athletics lower scholarship; that the star high-school athlete is a failure in college athletics; and so on *ad infinitum ad nauseam*. Now there may be truth in some of these. But who knows? Many good people for want of reliable information really believe some of these half-baked half truths. I am sure that the friends of athletics are glad to know of the investigation of high-school and college athletics now being made by Mr. Herbert Savage under the auspices of the Carnegie Foundation. In the meantime let us suspend judgment until this report is published. If anything is wrong with our athletics, all of us are willing to make the proper correction. All of us want to do the right thing, but to be able to do right we must first know what right is.

Greater Care Should be Taken in Selecting Coaches

The coach is the biggest factor in determining what a team, a school, and community, get out of high-school athletics. Fortunate is the school which has a coach with a clear-cut conception of his duties and the strength of character to carry them out. Such a coach regards his work as an integral part of the school system with a definite contribution to make to the cause of education. If he is a man of fine character and sound judgment, his

influence will be felt throughout the entire school. He will have as much influence over the pupils as any person in it. It is his special privilege to emphasize in a most concrete way the importance of regular habits, clean living, fairness, courtesy, loyalty, and courage. If he is not of this type, he may indeed become a veritable menace to the school and city. The coach's job is a hard one. In too many places he is expected to win, regardless of his material and adverse conditions under which he may have to work. As long as he wins, he rides on the crest of the wave; when he loses, his popularity wanes. The public and a few school men are hard taskmasters. A good coach is a joy forever; he is entitled to a good salary. If he is successful in the many ways that a good coach may be, he is entitled to some unusual financial recognition, all of which must come from the board of education. The high-school principal or superintendent can perform no greater service to his school and the community than by selecting the right kind of coach with the greatest care. Young men and young women with high ideals should be encouraged to enter the coaching profession for it presents an opportunity for splendid service. Youth is the time when we acquire our ideals. Happy the boy or girl who comes under the influence of a fine high-school coach. Very fortunately these days, the colleges are emphasizing the idealistic side of athletics. Most of the college coaches in Ohio are imbued with high ideals. They have a most potent influence over our high-school coaches. Let us all make a special effort to secure the highest type of high-school coach that we can find.

High-School Athletic Program Should be Expanded

Under our present system, too few boys and girls enjoy the advantages of high-school athletics. Those who need the physical development most get little consideration from the majority of coaches because they are not fitted naturally to make the team. On the other hand, boys who are well developed physically usually make up the personnel of the various teams throughout the year. Quite frequently the boys on the football team will be found on the basketball, baseball, and track teams. An interesting

experiment known as the major-sport rule is being tried out in Cincinnati and elsewhere this year. The sports thus designated are football and basketball. A boy who plays football is not permitted to play basketball, and vice versa. This limited competition gives opportunity to more boys and it is thought that stronger teams will be developed.

To furnish some kind of athletics for the boy who is not physically fit to make our high-school teams as they are now constituted is one of our biggest problems. As someone has so aptly said, "The cure for the evils of high-school athletics is more athletics." Athletics should exist for many and not for the few; for all who need the development as well as those who do not especially need it; and for all boys who while they are not able to make the team, enjoy playing from the mere love of playing. Every boy who wishes to do so should have the opportunity to try out for some kind of team. If he is not good enough to make the regular team, he should be given a chance to play against teams near his equal. If athletics are really justifiable, as we believe they are, the more boys engaged in them, the better.

The athletic program must be broadened in the next ten years to take care of more pupils. To do this, more coaches will have to be employed. This will present a serious problem in these days of financial stringency. Intramural athletics should be well organized in every school. There is no reason why class teams should not play class teams from other schools. The money to do this with must come from football and basketball. Our goal in the next decade should be an athletic program for everyone who desires to make a team for which he is physically able.

Rules of our Association Must be Observed

The rules of the Ohio High-School Athletic Association, the result of twenty years' experience with organized athletics, have been evolved through the united efforts of many men, actuated by a sincere desire to improve conditions. Each rule therefore has some good reason for its existence. While our rules are not perfect, they are the best that the Association has yet had and

they furnish a logical guide for the right kind of athletic activities. Any school which wishes to get the best out of its athletics, will do well to follow the letter as well as the spirit of these rules.

The organization is now on a most democratic basis. Three years ago, the Board of Control decided that the Constitution and Rules should not be changed without sanction of the membership. The schools themselves may now propose rules for adoption. The rules are, therefore, your rules in every sense of the word. It is not only your duty to obey them, but to see that others do so as well. If every one obeys them, all are on the same basis of equality; if your school lives up to them and your competitors do not, your team is handicapped and placed at a decided disadvantage. Before we can obey a law, we must understand it. It is our duty to see that we and our coaches know and understand the rules. The boys on our teams should familiarize themselves with them. After this year, ignorance will not be accepted as an excuse for violations. If our rules are bad, let us change them; but as long as they are our rules, we must obey them. Dislike for a rule furnishes no legitimate grounds for its evasion or infraction.

State athletic associations are tightening up all over the country. In many states, schools have been suspended or dropped from the association this year. Due to the efforts of the National Federation of State High-School Athletic Associations a school so dropped cannot make up its schedule outside the state. The Federation now numbers twenty-two states and is very rapidly growing in power and importance.

Recommendations

1. All of us should select our officials with greater care. Poor officiating spoils contests and spreads discord between schools and communities.
2. Emphasize the idealistic side of athletics to our teams, schools, and communities. Good sportsmanship will solve 75 percent of our athletic difficulties.
3. Use care in the selection of coaches.
4. Encourage minor sports so that more pupils may participate.

5. Show the public what we seek to accomplish by our athletic programs. Tolerate no interference of the public in questions of eligibility, employment of coaches, the making of schedules, and other matters in which it has no concern.

6. See that we, our coaches, and pupils understand the rules of the association. Conduct our athletics strictly in accordance with these rules.

7. Regard athletics as a definite part of the school program which should secure neither too much nor too little emphasis.

8. Secure the cooperation of the press in the proper publicity for our athletics. Newspapers still have considerable influence with the public.

9. Interest the best people in our cities, villages, and neighborhoods, in our athletics. Discourage the gambling element.

10. Use common sense in handling our athletic problems. Avoid as far as possible the injection of personality. How can we expect our pupils to be good sportsmen when we ourselves are not?

THE REAL ATHLETIC QUESTION

J. W. Wilce
Director of Football, Ohio State University

There is an athletic question. The appointment of many organizations to study athletics, notably the National Collegiate Athletic Association and the Carnegie Foundation, is partial evidence. The question seems to arise because of difference in viewpoint as to the objectives of high-school and college sport. Educators believe in one set of objectives, the educational. Other elements—the sporting public, gamblers, the general public, a few rabid alumni, and certain types of newspaper control—believe in distinctive different objectives. Educational objectives are called by these groups "the bunk." An understanding of each other's viewpoint is desirable at this time. The educational objectives from one viewpoint are:

1. To round out the content and appeal of modern higher education.

2. To serve as the high point of the pyramid of broadly conceived universal physical education in respect to: (1) specialization, (2) skill, (3) intensity, (4) enthusiasm, (5) "punch." To stimulate and encourage, financially and by example, the intramural sports form of physical education for all. The recent (1926) Harvard Athletic Committee report rates this point as a primary objective. It is interesting to note national intramural growth through intercollegiate stimulation. As an example, statistics of Western Conference colleges show approximately 80 percent participation; fifteen years ago this participation did not average 25 percent.
3. To give educational expression to certain national characteristics and to encourage in the more orthodox educational system, elements of physical and moral vigor—hardihood, sturdiness, "iron," virility, fighting impulse, and whole-souled, whole-hearted clean effort—to any given end. Practical coaches believe in the possibility and actuality of transfer of this vigor to other phases of human endeavor and the value of the actual experience as such.
4. To exemplify what Kennedy so aptly states: "There are other elements than intelligence necessary in the day's work." Most coaches believe that through football a player learns and illustrates sportsmanship, principle in action, amateur spirit, self-control, self-denial, submergence of self, alertness, courage in victory or defeat, real citizenship through honesty of purpose, and obedience to the law of the game under temptation and stress.
5. To carry to alumni and the general public the educational viewpoint and stimulus, and to bring back to the institution the practical "out-in-the-world" viewpoint to the advantage of each. To act as one *sound* contact point or middle-ground between the academic and alumni university.

6. To conserve physical welfare, and to develop social and moral advantages for participants. To teach mobilization and concentration of individual powers to given cooperative ends.
7. To stimulate interest of participants and supporters in increased intellectual life and refinements through the field of greatest appeal.
8. To develop morale and spirit, true cooperation, and citizenship in individuals, groups, institutions, or sections to some progressive educational end. Coaches can administer football successfully from this sound viewpoint with the aid of courageous cooperation. Institutions can secure a coach with any viewpoint they desire; the professional, semi-professional, or educational. Working conditions of these three types can be and are supplied. Coaches, for the most part, do the best they can under conditions. They create or modify in a degree but are powerless beyond a certain point.

The seeming practical objectives are:

1. To advertise the institution, particularly in endowment and other drives.
2. To advertise and bring trade to a city. This is reflected in the cooperative attitude of Chambers of Commerce and the other local commercial clubs of high standard.
3. To create more extensive, interesting athletic publicity—a newspaper which is attractive to more readers. Colleges have invited extensive publicity through the principle of their own publicity departments. The cooperation of newspapers has been for the most part excellent.
4. To win every game at any cost. Coaches teach the legitimate-win idea as part of the educational life objective. The gamblers, of course, insist on it always, regardless. The average thinking alumnus in most instances, especially one with growing children, has a sound viewpoint and thinks of things other than final score.
5. To make money.
6. To edify the public.

These six reflections are not in themselves objectionable, even from the extreme idealistic viewpoint. They are normal and human. They are to be expected and to be considered as a normal accompaniment up to a certain point. These things become a menace to the comparatively amateur nature of college sport, however, where extremely overdone or if they are insisted upon to the sacrifice or condemnation of the primary educational objectives previously stated.

Excesses come from the knowledge that the winner brings the largest crowd. The suggestion which is sound yet regarded with outspoken scorn and impatience by the extremists, is that it has been proved that a clean hard-fighting amateur team draws fine crowds, regardless of winning. These teams furnish the most consistently desirable type of advertising possible. Recent student editorials indicate that leading students sense this trend and are more interested in sound football than in attempts to win at any cost.

Sound college athletics represents our educational system; it is the source of some of our finest national tradition and progress. There is a clean-cut choice before interested Americans. Shall the friends of football inside and outside of college insist on such degrees of strictly "practical considerations" that educational football will become impossible; or will the majority look below the surface and increasingly cooperate to maintain the fine features of the game? Men handling sport in colleges see no chance for effective compromise. It is the question of what you want for your children. It is necessary that educational controls maintain and develop to an even higher degree the good old-fashioned quality we know as "intestinal fortitude."

HEALTH AND PHYSICAL EDUCATION IN THE LIGHT OF EDUCATIONAL STANDARDS

J. F. Williams
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The significance of health and physical education has grown with changing conceptions of education. As long as education

was regarded merely as the training of the mind, physical education was viewed as a training of the body. A dualism sanctioned by the educational theory of a past generation was approved by the uncritical physical educator. Modern educational theory and practice have gradually recognized an ontogenetic view of development in which the physical is related to the mental and emotional. Hence when education is viewed as life, not as a mere preparation for life, and is proposed for the whole of life—mental, physical, and social—and not for a dissected remnant, it is pertinent to inquire concerning the relation of health and physical education to such views and proposals.

Commonly stated educational objectives.—When education conceived its function in terms of mental discipline, it regarded health supervision, health education, and physical education as rehabilitating, remedial agencies to correct the physical defects produced by the educational process. What do common statements of educational objectives suggest today for health and physical education in the school? Since the report of the Committee on the Reorganization of Secondary Education, the following objectives have been particularly prominent: health, good morals, scientific attitudes, vocation, citizenship, and worthy use of leisure time. What have health and physical education to say with respect to these stated objectives of education?

Health.—Health is an important consideration for education, but it is not the whole of life. Health teaching and health supervision may contribute to health, and the present interest in health education promises much for education, in spite of many ill-conceived and poorly executed programs for health. Physical education contributes to health, but its rôle is more educative than hygienic. Aside from the influence of heredity, physical education for the child is the basis of all vitality and all organic power. The psychological and physiological aspects of this are not generally understood, even by many educators, physicians, and other persons well informed in other respects.

The educative significance of physical education is embodied in the conception that health is not merely physical, that it is also mental and social. In fact, its entire support for educative

purposes arises out of its contribution to other objectives of education than the hygienic one.

Good morals.—The notion that physical education dealt primarily with corrective, rehabilitating, hygienic procedures produced a type of physical education which was perspiring and technical, but always physical. While school men frequently recognized the educative influence of teachers of physical education, their failure to understand the character-forming, social and moral nature of an activity program was one of the curious phenomena of the day. Some explain this by citing the ascetic type of training of many educators; others, with more plausible reasons, suggest the commercial and advertising value of exploited activities. Perhaps there are many reasons. The fact remains, however, that physical education in the school remains in many cases as a corrective, perspiring activity with a *physical director* in charge, or an aristocratic, athletic exhibition with a *coach* in charge.

Now if school men are as interested in social and moral learning as they often profess to be, they will put in charge of physical educational activities a teacher who knows physical education, who is interested and informed concerning the business of child training in general, and whose games and dances are organized and administered with reference to legitimate educational aims and purposes. Such teachers are available; they are being trained. Thus, the future usefulness of physical education in this objective is in the hands of educators more than of its own advocates.

It was William James who remarked that one's judgments are more a matter of the circulation than of logical grounds. This would apply to ethical judgments, and all the evidence of modern social work indicates the relatedness of health to moral conduct. Whereas, at one time, people sought spiritual excellence by negation of the body and debasement of the physical, modern science understands Browning's lines from Rabbi Ben Ezra when he says,

> "Thy body at its best,
> How far can that project thy soul on its lone way?"

What Browning knew by poetic insight, we now know by the constantly supported evidence from psychology, physiology, and social science.

There can be no ready assumption of security in these matters. The activity in physical education is two edged. It may contribute to wholesome ends, or it may be positively injurious. No activity in the schools is so rich in situations with social and moral learnings as is a wholesome program of physical education. Here in life situations, social and moral training goes on. We may prefer that character be taught by precept in the classroom, but the evidence shows clearly that it is a laboratory affair, and the activities of physical education represent the richest, single opportunity in the school. Whether the potential results shall be secured depends upon the leadership—shall it be a teacher of physical education, or a physical director who knows nothing but exercises, or a coach who is interested only in winning teams and his own reputation, or a half-trained summer-session expert whose only claim to an appointment is local or political interests?

Scientific attitudes.—What have health and physical education to say about scientific attitudes? The former little if anything; the latter a great deal. Science has been taught for many years in the public schools, and yet science has never been sold to the American public, if by science one may mean the scientific attitude. Health teaching has been concerned in the past largely with bones, alcohol, and tobacco. Today it is just as lopsided, only now the interest is nutrition and average weight.

Health education should contribute to scientific attitudes, because of certain outstanding health needs that overshadow malnutrition and normal weight. Health is not achieved by magical and mysterious processes, but by facing facts, following truth, and obeying laws. A person may be said to be educated who acts in response to facts. But how many schoolmasters have been taking Tanlac this winter, Nuxated Iron, and other patent medicines? How many of our boys and girls graduated from high school are so untrained that health columns in newspapers, conducted as advertising schemes under such names as Health Hints, constitute guides to them in matters of health?

How far are school people, scientifically prepared in attitude, able to foster instruction that shall educate young persons to judge intelligently in selecting treatment for disease? The cults of the antivaccinationists, the antivivisectionists, the isotonic diagnostics, the mind healers, and the spine rubbers and crackers, furnish a kind of evidence which suggests a rather pitiful and feeble kind of science teaching. The outstanding need in all health instruction is a teaching of health in relation to life problems, the control and development of one's self in relation to intelligent and scientific guides, and the orientation of one's personality in relation to social and moral considerations.

Vocations.—Aside from the contribution that health and physical education make in general fitness, strength, and physical welfare, they offer nothing of moment to the trades, occupations, and professions. For girls in their outstanding vocation of motherhood, however, physical education in games, sports, and dancing offers significant help. A recent study and report by Dr. Mosher show this quite clearly. The physical growth and development, the regular functional cycles, all are favorably influenced. Improved modes of dress may be responsible for some of these gains, but undoubtedly the outstanding agency is a more rational physical activity program for girls.

Citizenship.—The story of the revelations of the Selective Service Act in 1917 and 1918 is too familiar to be repeated at length here. While enthusiasts of physical education have claimed more for state laws of physical education than is wise or defensible, there are in health instruction and health supervision in the schools preventive measures of real worth. The great majority of defects that excluded drafted men from service were reasonably preventable, based either on Fisher's estimate of preventability as given in the report of the Commission for the Study of National Vitality, or on Fisk's analysis, or on Love and Davenport's study of defects found in drafted men. The great dramatic urge to become fit for service to the nation passed with the Armistice, and only by education can the meaning of fitness for peace and for life be interpreted and developed.

Worthy use of leisure.—The final objective to be considered in this paper is the worthy use of leisure time. What have health education and physical education to report? Clearly the former has nothing to say, and quite as clearly the latter has a great deal to say.

It is an important observation in physical education that adults participate in those activities which they can do well. In other words, only rarely will the "dub" try an activity in which he is a novice. Moreover, for the maintenance of health and normal functioning, physical activity is essential. One cannot build up in youth a sum of health that will last through life. Health flows from life, from living in the right way. Activities learned in youth will continue into adult life, if they are satisfying and have meaning—hence, the importance in school days of boys and girls developing skill and love for physical activities that will carry on into life. Clearly, therefore, we must have less and less dumb-bell drills, calisthenics, and such foreign importations as Danish gymnastics, and more and more of games, sports, and dancing. These are the basis for normal wholesome recreation and constitute, by far, the chief sources for use of leisure time. While reading, music, and certain arts afford laudable education for leisure time, natural activities of physical education will remain as the chief sources for satisfaction. The two chief handicaps at the present time are lack of adequate education in school activities that will take all boys and girls beyond the novice class, and lack of recreational facilities in communities in the form of plants, and trained leadership. The increasing urbanization of society is making this problem more and more difficult, but it has been with us always, in some form, in rural areas. It remains today an important problem for education and for physical education.

Thus, physical education and health education—the former presenting an activity program, the latter offering health instruction and health supervision—are vitally concerned in the legitimate goals of education. To think of them as concerned only with health or with correction of defects is to miss their peculiar contribution to the worth-while education of boys and girls.

HISTORY

ROUND TABLE DISCUSSION: "MAKING HISTORY TEACHING VIVID"

PROFESSOR EDWIN W. PAHLOW, *Ohio State University*, Presiding

I. TOWN LIFE IN THE THIRTEENTH CENTURY

(a) WILMER C. HARRIS
Ohio University

I suppose the way to make history vivid is to relate it to the present so I shall indicate a few of the ways by which one may relate medieval town life to life in Columbus, Ohio, today.

1. The medieval town had a wall around it—not such a wall as we may sometimes see around a farmer's fields, but much higher and thicker—more like the wall around the Ohio Penitentiary, except that the town wall was to keep people *out* while the penitentiary wall is to keep people *in*.

2. Medieval-town houses had upper stories projecting *over* the street. Today, the upper stories of high buildings are set *back* from the street. This is true of the new buildings in New York and Chicago. Perhaps the new American Insurance Union building will furnish an example in Columbus. The class can discuss the reasons for this difference.

3. The medieval craftsman hung a sign with some device representing his craft in front of his shop, for few could read. Unfortunately for our purpose, the wooden Indian is no more seen in front of cigar stores, and the chain drug store no longer displays red, blue, and green globes in its windows. But the pawnbroker, with a medieval conservatism worthy of a university, continues to hang out his three golden balls. Sometimes an up-to-date tea shop, striving to attain a quaint and old-world atmosphere, will have a Brown Bear or a Golden Pheasant on its sign. And some pupil is sure to think of the barber pole.

4. The medieval craftsmen huddled together on the same street, the tanners on Tanner Street, the fishsellers on Fishmonger

Alley. And today Columbus has its specialty shops on East Broad Street and its auto-accessories on North Fourth Street.

5. The medieval town was liberal and progressive, the rural districts then as now were backward and conservative. The Protestant Reformation made greatest headway in the towns, and today it is Union Theological Seminary, New York City, and the University of Chicago Divinity School that are leaders of liberal Christianity. Harry Emerson Fosdick is a city pastor and teacher—William Jennings Bryan hailed from Nebraska and was a hero in Tennessee.

6. There seems something foreign to our present environment in the commercial revolution of the twelfth and thirteenth centuries, the struggle of the towns to gain freedom from their lords. But less than a year ago, our newspapers were filled with accounts of the struggle between the City of Chicago and the State of Illinois. New York City, Buffalo, Detroit, and other great cities, were struggling with their modern lords, the states, demanding more freedom and less outside control, threatening secession and the establishment of independent government.

7. The medieval town was sometimes established by a lord that he might increase his revenues. Modern towns are sometimes established by great lords of business as Gary, Indiana, was founded by E. H. Gary, president of the United States Steel Corporation, and Ford City, founded by Henry Ford. The growth of towns then as now was determined by a favorable location for trade. Venice and Genoa grew because they were located at a break in the route of Oriental trade. New York City is our largest city because it is a break in the route of our world trade. Columbus is a large city because it is a convenient center for distributing goods in central Ohio. Worthington is a small town because it is a distributing center for a small local area.

8. To stimulate interest and class discussion in medieval history, there is no better topic than medieval town life. And a few concessions to that "awful" thing we may call "high-school humor" will grease the wheels and help to make the hour pass quickly.

(b) Annetta Walsh
North High School, Columbus

To the high-school pupil who relies solely upon textbooks for his information, history must seem a dead thing, a monotonous chain of events, a series of mummified facts. This is true especially for the student of medieval history. The textbooks relate the important events—cathedral and castle stand out majestically but little impression is given of the great drama of the everyday life of the mass of common people. The question under discussion is, How can life be put into the study of this period? How can life in a city of medieval Europe take on some of the vividness of the life of ancient Rome or a city in ancient Egypt?

To accomplish this aim, a plan was suggested to a junior class. The pupils were reminded of the fact that Professor Davis's book *A Day in Old Athens* had helped to make Athens and its people real to them. It was proposed that they, as a class, borrow Professor Davis's idea and write a book descriptive of some medieval European city. They were to try to make the men and women, the boys and girls of that city live again and speak about the things that interested them.

London was the city chosen on account of its near association to us. The pupils themselves mentioned the phases of life they would like to know about. Each pupil was responsible for finding all the information possible upon one or more of these subjects. Two members of the class, chosen as editor and assistant editor respectively, received all material contributed by the pupils and are organizing it in the form of a story or tale to be called "A Day in Old London."

Such subjects as the following were listed by the pupils: manner of dress, houses, home life, food; streets, their names and appearance; shops and business; occupations of the men, working hours, wages; churches and religious services; hospitals, doctors, care of the sick; government and administration of justice; children and their games; schools; the language of that time; a plan or bird's-eye view of London.

The rules for writing history were observed by the pupils in their "research" work. Everything contributed must be backed

by good authority. Materials drawn upon were the books in the libraries, illustrative material, documents, laws, and regulations of that time.

The "book" is not yet completed, but as an experiment it is paying well in many ways. Such a project, on which the entire class is engaged, furnishes valuable insight to the way in which histories are written, but it is an especially valuable experiment in the way of making the past real. London of the thirteenth century will stand out sharply in contrast with London of today, and the pupils will be able to realize the great changes that have taken place in the intervening centuries.

II. MAKING THE PERIOD OF LOUIS XIV VIVID

Samuel H. Ziegler
East High School, Cleveland

The best way to bring out the essential features of the period of Louis XIV is to emphasize the idea of contrast. In showing the contrasts of this period three concepts may be indicated. The first contrasts are in France itself. On one hand, we have the king and the nobles, their rights, privileges, and immunities, and on the other hand, the common people, their dues, obligations, and disabilities. Then we have the church dignitaries, the wealthy bishops and abbots, that stand out sharply against the poor parish priests who received barely enough income to keep them alive. We can limn the magnificent palaces and castles of the king and his nobles beside the wretched huts and slums where the common people lived.

By the second series of contrasts, we can portray conditions in France and England through the parallel incidents in which the English king failed, and the French king succeeded in winning autocracy. Perhaps the most interesting contrast in this field is between the nobles of the two countries—the English noble living on his country estate, spending the income of it in the village, and looking after the physical and economic welfare of his tenants, as contrasted to the French noble placing an agent on his estate while he idles his time at court.

The third series of contrasts concerns France in the days of Louis XIV and America today. We find: the religious bigotry of France and the religious freedom of the United States; the autocracy of France and the democracy of the United States; the poverty and rigidness of the French peasants and the ease and comfort of the vast mass of Americans; the ignorance and superstition in France and the educational opportunities of the United States.

In view of the fact that the period of Louis XIV is taught to our high-school Juniors who are usually in the imaginative period of their mental life, this method of handling the subject by pointing out the contrasts will, I am sure, make the subject very vivid indeed.

III. THE CONSTITUTIONAL CONVENTION OF 1787

(a) Bertha E. Jacobs
North High School, Columbus

One of the most complicated difficulties the history teacher meets is that of arousing and directing the students' interest not only in acquiring historical knowledge, but also in developing a sympathetic appreciation of the great underlying humanity of history without which the subject-matter is a bare dull thing. Especially disconcerting among the many factors that contribute to the uninspired attitude of the average student, is the apparent lessening of his ability to get very much for himself from the printed page. One wonders, sometimes, if the present generation, largely depending on the moving picture for amusement, is not becoming wholly visual minded and losing some of its ability to make mind pictures of its own. Book characters and events may seem to our students nothing but lay figures going through mechanical motions with little meaning in themselves and no relationship to our world today. If this is true, one of the history teacher's main problems is to vitalize those characters and make them live.

Unlike the other two topics for today's discussion, "The Constitutional Convention of 1787" offers little of glittering

pageantry or quaint development to challenge interest, but it does offer certain fundamental achievements in the field of accomplishment that must serve as foundations for future developments and therefore must be learned. Often when the teacher has made sure that her students understand clearly and adequately what was wrought constitutionally by that little group of men, she has little energy left for creating that sympathetic appreciation of their struggle that must be the basis of making them live in the students' minds.

Because sympathy is based on understanding and understanding must be gained through experience, my own most satisfactory solution of this problem has been through the medium of dramatic writing, and my most economical handling of this medium, through the group-project plan.

Various pupil committees worked out the historical setting; material for a prologue explaining the necessity and manner of calling a constitutional convention; material representing the attitude of the people in the street toward the many rumors of what was going on behind the closed convention doors; the information necessary to describe a session of the convention at the time of the signing; and the sort of information that should be contained in an epilogue to foreshadow the ratification and its results. As a correction of any possible anachronism in the handling of the members of the convention and in the speeches put into their mouths, each pupil selected one character for a special study, listed the qualifications of that character for the work to be done, and learned those facts in his environment that would tend to shape his attitudes on constitutional problems.

The reports of the committees were public property, and group work was allowed in the writing of the plays. Individual opinions were so strong, however, that in only a few instances was this done. The finished plays offered a wide variety of treatment, but each had one outstanding characteristic. The historic characters were real people, and their problems were live, vital, and human. The Constitutional Convention of 1787 was something that actually happened. Each student knew it because vicariously he had been there.

(b) Jesse W. Steiner
Bluffton-Richland High School

Since this paper is to help as an introduction to a general discussion, I shall confine myself to a brief explanation of three aids I have found helpful, namely, dramatizing situations, drawing cartoons, and "using the community."

The first aid satisfies three purposes: it stimulates the imagination; it arouses the emotions; and it furnishes a means for self-expression, which benefits the writers, the actors, and the student observers of the plays. After the class has covered the period of the confederation and formation of the constitution in a first reading and has done some collateral reading, I ask them, in groups of two or three, to write a two-act play. The first act must illustrate the necessity for a change in government, and the second, the arguments and compromises arising at the convention. This work like that of collateral reading must be handled individually. Some can write a respectable play with few instructions, while others must have the characters pointed out and the actual situations created for them, and then not be able to complete it satisfactorily. The students producing the most suitable result should be permitted to present it to the class. It is reasonable that in order to re-create a character, one must study that character to feel in some degree the situation in which he lived.

A natural desire to investigate will be created that is much more powerful than the desire to know in order to answer the teacher's questions.

The second aid, the cartoon, can be used separately or parallel with the dramatization. After giving instructions to all, I permit those who prefer to draw cartoons illustrating action that must have taken place during the stormy period before, during, and after 1787.

The third aid is the use of the community. For example, in the period under discussion, I have found that Benjamin Franklin, one of the members of the convention, was eighty-one years old. Andy H——, a well-known local druggist, is the same age. Alexander Hamilton, aged thirty, was the age of Hiram A——, another well-known business man. The efforts of the states to

combine were compared to the efforts of two local telephone companies who wished to combine and who experienced all the problems common to those that pool their interests. Almost any familiar fact or principle brought out in this way arouses the interest of the pupils and helps them to understand and appreciate the topic under discussion.

Although as Professor Morse Stephens says, "nothing is more difficult than to realize the existence in a bygone era,"[1] yet the teacher must attempt to engender that past era with more life; and we believe that the foregoing methods will be of some value.

(Others who took part in the discussion were Professors E. H. McNeal and G. A. Washburne, Ohio State University; Professor H. S. Hubbart, Ohio Wesleyan University; Miss Ethel Hoover, East High School, Columbus; Miss Emma Stuckey, South High School, Akron; and Mrs. G. Curry, Pilgrim Junior High School, Columbus.

At the afternoon session, presided over by Professor Carl Wittke, Ohio State University, two of the Yale Photoplays *Wolfe and Montcalm*, and the *Declaration of Independence* were shown, after which there was a discussion of the use of the photoplay in teaching history.)

[1]Stephens, Henry Morse. *History of the French Revolution.* New York, Scribners. Vol. II, p. 361.

HOME ECONOMICS

HAZEL HUSTON, *Ohio State University*, Presiding

THE TRAINING OF HOME-ECONOMICS TEACHERS IN OHIO

ALICE M. DONNELLY
Ohio State University

At a conference such as this, when kindred spirits can get together and talk over their problems, it is particularly appropriate for us to discuss the training of our own home-economics teachers in the state. I should like to tell you briefly what I have found out about us as a class and then to ask you for helpful suggestions for the training of other teachers of the subject.

In the year of 1923–24, Dr. Buckingham, the director of the Bureau of Educational Research of this university, made a survey of all the teachers in the state. Among other things learned at this time were some facts about home-economics teachers. Curiosity prompted me to sort out the cards sent in by the women who said they taught home economics as the subject of first or second importance, and I think you might be interested in the results of this study.

During the year 1923–24 there were three hundred twenty-four newly appointed teachers of home economics, and three hundred eighty-seven who were not newly appointed, a total of slightly more than seven hundred teachers whose major interest, we might say, was home economics. We find that the length of training varies for the two groups. The old teachers, that is, those who were not newly appointed, had less training beyond high school than the newly appointed teachers to this extent. Fifty-three percent of the old teachers had four or more years of college work, while 70 percent of the new appointees had four or more years of college work. This suggests a trend toward what educators in general consider the right direction.

Another interesting bit of information gleaned from this study is that 72 percent of the home-economics teachers were teaching

only their own chosen subject. The other 28 percent were teaching almost any other subject in the curriculum from biology down the alphabetical list, except those which are strictly "men taught" subjects.

These are essential bits of information when considering the training of teachers—what is the teacher in the field doing, and how effective has her training been?

We learn by experience, our own and others, and I am going to ask a favor of this group. Will you tell us of any difficulties you have met in your teaching and suggest remedies which might help us to train other teachers more efficiently? We want to have an informal discussion here, and I shall probably send to each of you, within the next year, a request for some definite information about your position and remedial suggestions for the training of other teachers.

AIMS AND TRENDS IN HOME ECONOMICS

Mary L. Matthews
Head, Department of Home Economics, Purdue University

Dr. Andrews says, "The purpose of a home is accomplished if it creates a reasonable happiness for the two individuals who form it, and promotes useful relations for them with society, and if it rears children who can take a place in society that is at least as serviceable and satisfying as that which their elders held before them." Home-economics courses were organized for the purpose of training a girl to create and maintain such a home. Such courses are a comparatively recent development in education—in fact so recent that many educators do not yet consider them so important as other courses in the curriculum. The work has been severely criticised by them upon various occasions.

Is such criticism justified? Is it well for us to check up on our aims and trends in teaching home economics to see what we are accomplishing? We know that much poor teaching is still being done. In Indiana since 1913 we have had a law requiring the teaching of this subject in the seventh and ninth grades.

Teachers who were untrained were forced to do the work—we have even had men teaching the subject! In thinking over this matter, several points seem worth consideration:

1. To what extent are we developing our curricula on a "fact basis"? What are the actual conditions existing in the homes from which our students come? Dean Ava Milam, of Oregon Agricultural College, developed her courses in home economics in Yenching College, Peking University, China, after she had made a study of the Chinese homes by which she was able to determine the greatest needs in these homes. Miss Baylor in a talk before the Land-Grant College Association last winter said, "All instruction is increasingly being determined by outside conditions and forces which it may serve, rather than being projected from an inner circle out into society, fitting in wherever chance allows it." Have we as teachers in home economics been guilty of this error—have we followed a course of study regardless of its adaptation to the needs of the students?

2. Are we sure that the content and training given through our courses really improve the life of the individual and her relationships with her family and community? In a recent report from one of the committees of a Regional Vocational Conference, it is said that "All home-economics subjects should be built around the problems of the girl as a member of the family group and not merely upon the problem of the girl as an individual." Should our curricula not contain the training for citizenship? Such courses as the one we are using in high schools in Indiana, "The Girl and Society," or the college courses in "Family Relationships" have for their aim the broadening of the girl's viewpoint by training her to become a good citizen as well as a good housekeeper and homemaker.

In many cases the content of our courses needs changing very radically. We need teachers who have the "long view," teachers who are willing to experiment with courses and measure the results by approved standards. No longer do we teach cooking by the method of the individual recipe, because it has been demonstrated that such teaching does not carry over into the home. Our clothing courses are no longer begun by teaching a series

of stitches on models. We are constantly finding ways to better adapt the content of courses to the students' needs, but there is still much to be done by the teacher who is willing to try new methods of procedure. Perhaps the mothers and even the fathers of these students may make very helpful suggestions, since the majority of our home-economics teachers have not had the home experience, the practical experience, the vocational experience in homemaking, and cannot have the viewpoint of the parents in the home. Miss Winchell says:

> Among the conspicuous tendencies in home life and homemaking which are reflected in curricula in home economics are:
>
> (1) Distinction between essentials and non-essentials in housekeeping.
>
> (2) Shifting emphasis between consumption and production in the business of homemaking.
>
> (3) Growing recognition of the spiritual aspects of homemaking with emphasis upon mental and social adjustments, and familiar relationships.
>
> (4) The expansion of "woman's sphere," with its resultant division of labor and sharing of responsibility by all members of the family.
>
> (5) Simplification of living, with emphasis on those processes which express personality and individuality and provide the best environment for spiritual growth.
>
> (6) Appreciation of the responsibilities of parents as teachers and of the home as an educational agency.
>
> (7) Readjustment in routine of housekeeping due to the economic and social factors which affect the problem of service in the home.
>
> (8) A consciousness of the importance of a study of the pre-school child.
>
> (9) Intelligent use of the family income with best spiritual and material returns for each member of the family.

3. I should like to emphasize the necessity for creating a correct balance between the teaching of housekeeping and of homemaking. Home-economics teachers have had a tendency to overdo the teaching of housekeeping. We have overemphasized the importance of skills—we have not emphasized them as a means to an end. If we do not make our students understand that housekeeping is only part of good homemaking—that the homemaker has only done a part of her work when she has fed, clothed, and housed a family correctly; if we have not interested the girl in outside activities, in reading, in the problems of the day, if we have not made her realize her duty towards the community and that through her interest and activity outside the

home she becomes a broader-minded, more interesting woman better able to direct the social, educational, recreational, and religious activities in the home—then I feel we have failed. Sometimes I think teachers themselves have not developed as they should. Does the curriculum emphasize the technique too intensively—do we spend too large a share of our time on technical instruction? In one of the states a survey was made in a land-grant college concerning this matter. Only 5 percent of the alumnae favored increasing the time devoted to technical subjects; 66 percent favored giving more time to academic subjects. Perhaps with better teaching and more efficiently organized subject-matter, we can spend less time on technical work and give more time to English, history, and languages in the curriculum.

4. Has teaching really persuaded the girl that correct habits of living influence her health? Does she actually eat what she should or has she lost the point of her nutrition lessons? Take, for example, the menu of beans, potatoes, meat, bread, with no fruits or green vegetables, which I saw one of our club girls select —she had studied breadmaking and canning, but nowhere had she learned *how* to use these products correctly in her diet. Home-economics teachers for a long time failed to emphasize health as the end and aim in proper eating, good housing, and correct clothing. I like the statement of principles as formulated by the "Committee on Principles Underlying Home-Economics Education in Seventh, Eighth, and Ninth Grades," of the American Home-Economics Association:

(1) Right living in relation to food, housing, and clothing is a definite contribution to the individual's and nation's health and welfare. Teachers of home economics should so plan their work that it may do its share in making this contribution.

(2) The home is a social and economic unit which makes a strong nation possible. Social adjustment within the home is dependent upon each member assuming his share of responsibility. Homemaking as taught in the schools should give opportunity to incorporate these fundamentals.

(3) The formation of right habits of thought and action is the main purpose of education. The results of home-economics teaching should also be apparent in the pupil's standards, attitudes, ideals, and her ability to attack new problems.

(4) Problems in homemaking should be adapted to the age, interest, intelligence, and social needs of the pupils. The problems should be chosen

by the children, under the teacher's guidance, from situations such as are found in the social activities of the pupils, the community needs, and the homes from which the children come.

(5) The subject-matter should be chosen because it is needed in solving the problem at hand. The storing of facts and manual skills should not be considered as ends in themselves.

5. Are we using home projects as extensively as we should in our teaching? Home projects have proved their worth in the homes of the high-school girls as indicated by: (1) renewed interest on the part of the girl and her mother; (2) improvement of the girl's work at school; (3) the adoption in the homes of practices revealed there through the home-project work; (4) reports and testimonials of the mothers who say that their daughters have better home practices, higher standards of living, and that they practice economy in time, energy, effort, and material supplies; (5) comments passed on to members of the board of education by the parents; and (6) superintendents seeing the benefits in some of the homes in the community. Several difficulties present themselves in administering home-project work. The first is the working out of effective projects which will be valuable to the girl and her family; the second is the lack of good methods for evaluating the work done, and the third difficulty, which seems the hardest to overcome, is that of arousing enthusiasm for such work among teachers, students, and their mothers. Will the time not come when we do less laboratory work in the school and more home-project work? Can we not through this method show the student the relation of home economics to her every-day home life as we cannot do it otherwise?

6. Is there a tendency on the part of too many teachers to specialize in one phase of home economics to the extent that they cannot see the relationship of this to other phases of the subject? This is sometimes the situation in our colleges and universities and in the larger high schools which have several home-economics teachers. It is certainly important that the supervisor of home economics or the head of a department be able to see the relationships between all the home-economics subjects taught and to prevent overemphasis of one phase by the student. If the work

is to function best, the student must apply all phases of the home-economics training she receives to her mode of living and must be made to feel that one is as important as another.

7. Are we "keeping up" with our opportunities for development as teachers? Some teachers tend to feel that it is not essential to keep studying after leaving college. Teachers might be divided into three groups, namely those who keep up, those who lag behind, and those who go ahead. It is to the third group that more home-economics teachers should belong.

There are three aims towards which we have striven during the last ten years: (1) to make our work of such a character that it will become a recognized course comparable to any other in the school curriculum; (2) to have better-trained teachers, those with a broad vision—with the "long view," and, (3) to develop courses that best fit the needs of our students. What then seems to be the trend in our work? I believe we shall teach less technical work in our school laboratories, use more home projects at least in the high school, emphasize homemaking more and housekeeping less, teach more about consumption and less about production, and do more research in home economics in order to know better how and what to teach. Our curricula must constantly change for the subject is new and we have a "work of opportunity" to do original thinking and planning in our work.

INDUSTRIAL AND VOCATIONAL EDUCATION

W. H. Stone, *Ohio State University*, Presiding

THE AIMS AND FUNCTIONS OF INDUSTRIAL ARTS AND VOCATIONAL EDUCATION IN THE PUBLIC SCHOOLS

Edwin A. Lee
University of California

In addressing you upon the topic which has just been announced let me make clear at the beginning that I intend to make two addresses in the time allotted to me: one on the aims and functions of industrial arts, and a second one on the aims and functions of vocational education. I make this distinction because I desire at the start to make explicit my conviction that the aims of these two fields are in no sense the same, that much unnecessary confusion has resulted because we have failed to recognize the separateness, and that dire injury to the cause of both industrial arts and vocational education will result if we continue much longer to think hazily concerning the aims and functions of these two fields. I shall consider industrial-arts education first.

What do we mean by industrial-arts education? The National Education Association Committee has defined it as including "those forms of training and study based on industrial pursuits and designed to enhance general intelligence and give vocational guidance in the field of industrial occupations." Professor Edgerton, of the University of Wisconsin in his book, *Industrial Arts and Prevocational Education in Junior High Schools* states, "The main objective is to help all pupils regardless of their social status or possible life work, to develop industrial intelligence and thinking power in connection with life situations." Bonser and Mossman in their *Industrial Arts for Elementary Schools* pronounce the purpose to be "a study of the changes made by man in the forms of materials to increase their values, and of the problems of life related to these changes." You may take your choice of any of these definitions and stand on solid ground.

Let us examine the implications of these aims. What is the scope of the industrial-arts program? In years we generally think of it as compassing the ages six to fifteen, inclusive. In school grades we conceive of each grade from I to IX as devoting some place in its program to industrial arts. In a course of study we vision it not as a separate subject, but as a philosophy which permeates the whole program and teaching force, enriching and vitalizing the experience of all.

We are mainly concerned in this meeting with aims and purposes of secondary rather than elementary industrial-arts education, but I would pause for a moment to point out briefly some of the aims and functions which should be realized for the preadolescent child. Why should an eight-year-old or a babe in the first grade have any contact with industrial arts? In answer to the question I shall state the aim concisely: to give the child an appreciative understanding of the great work currents of the world through reading, observation, participation—particularly with reference to the evolution of those currents. Into what currents does the world's work fall? Probably there is no more satisfactory classification than the one which many of you use, I am sure. Transportation and communication; records; utensils; tools, implements, and machines; shelter; food; and clothing; these are the great work currents into which man's activities have fallen since history began and will continue to fall. Are they too involved, are their ramifications too complex for the second-grade child? In their essentials many of us from actual experience can answer a decided "No."

Probably my richest years as an educator were spent as a teacher at the Speyer School, New York City, then the experimental school of Teachers College, under the principalship of Dr. Frederick G. Bonser. Some of you know "The Speyer-School Curriculum." I remember my fascination in watching the beginners construct an apartment house for dolls, each child having its own apartment, and facing and solving the problems of furnishing, decorating, and making livable the tiny replica of the kind of shelter most typical of New York. I recall the truly stupendous body of information and experience which the

fifth graders collected around the idea of Records; the books and paper they made, the printing plants they visited, the history of paper-making they comprehended, the title pages they illuminated. I thrill at the remembrance of the meaning which entered the "Potter's Song" from Longfellow's *Keramos* when the tots of the third grade pictured to me the evolution of utensils, the development of pottery ancient and modern, the irrepressible desire to express beauty which no people has been without.

Oh, the fascination of life! The enthralling tale of such a mundane article as a pair of shoes; the wonder of the many who work and serve that I may breakfast comfortably; the marvel that I can retire to my Pullman in New York and awaken in Columbus refreshed and unharmed because of the wizardry of modern transportation. All the romance of industrial evolution is wrapped up in the industrial-arts idea as applied to the elementary school. Given skillful teachers—aye, there's the rub—the elementary curriculum becomes vitalized with new meaning, its lessons are etched upon the child-mind with vivid impressions, its contribution remains a cherished possession far into the adult life of the child.

When we consider the junior high-school group we discover certain characteristics which seem more evident at this age than at any other time in the child's life. For the junior high-school child, the age is a finding age—new discoveries are consciously made and consciously recognized as such. It is an investigative age—boys want to see how things work, where things come from, what things are made of. It is a curious age—the word *why* looms large, the reason for things assumes great importance. The whole idea of the junior high-school movement is embodied in the term *orientation*. The elementary school has been one broad highway down which all have marched abreast. Ahead looms the crossroads with the sign posts pointing in every direction; to the university, to part-time school, to evening school, to all kinds and conditions of life work. The junior high school becomes the interpreter of the signs and the trusted counselor concerning which road to take if in doubt.

What is the function of industrial-arts education in the junior high school? Let me in answer propose a fourfold purpose and examine certain implications which grow out of the proposition. It is the aim and purpose of industrial-arts education to give the child a controlled set of experiences in a selected group of occupations in order:

1. that the child may have a basis for determining whether or not he wishes to pursue further and more intensive training in any one of the occupations experienced, or occupations similar thereto;
2. that the child may, from first-hand experience, gain in simple terms an appreciative understanding of the problems involved in the work of the world as represented by the selected group;
3. that the child may be led to think in terms of the advisability of organizing his future school activities around the idea of becoming a contributing worker—in other words, around the "life career motive";
4. that the child may be able through the experience he gains to meet more intelligently the simpler problems that arise in everyday life in each of the occupations experienced.

The first purpose "to give the child a basis for determining whether or not he wishes to pursue further and more intensive training in any one of the occupations experienced" implies first the "try-out" idea, which involves the belief that the pupil in taking the shops course is really investigating the occupation rather than seeking to improve his technique in that occupation. It likewise implies that the controlled experiences are in more than one occupation, in fact in as many occupations as the schedule can accommodate. How else is the boy to achieve a basis for an intelligent choice? A third implication is that the course offered in a given occupation must be representative of that occupation—it must give a fair, true, and adequate picture. Another implication is that the shop work must be supplemented by an integrated program of guidance which will coordinate all that is known of the child in terms of psychological tests, scholarship grades, success in various shop experiences, and so on, into an intelligible record of the child. Growing out of this is the further implication that the child finally determines his own choice, and the function of the industrial-arts program is that of giving him an adequate basis for choice, not adequately choosing for him. Finally

it must never be lost sight of that the courses are not vocational—they cannot aim to develop skill or proficiency in the occupations scheduled. Vocational education begins when the pupil, after careful investigation and due deliberation, decides to pursue further and more intensive training in the occupation chosen.

The second aim "to give the child a selected set of experiences in order that he may from first-hand experience gain in simple terms an appreciative understanding of the work of the world" suggests additional implications of which account must be taken. Immediately it is recognized that the greater the number of occupational experiences the deeper will be the appreciative understanding. The pupil, therefore, will not be limited to one, two, or three occupations even though he may feel certain he has discovered his choice, for the essential point of this aim is that he shall know as much about as many occupations as can be experienced in the few years of the junior high school. A second implication is that the occupations included in the industrial-arts program should be chosen because they represent a cross section of the prevailing fields of work at the time. Again, the courses must aim to create a respect for the world's workers—a feeling of interdependence. I once heard a great university president admit that he was a good university executive, but that when his plumbing went wrong he doffed his cap and gown, put on the garments of humility, and prayed the Pl.D. (doctor of plumbing) to search out the trouble which he, being only a university president, could neither locate nor remedy. We cannot overemphasize the interdependability of the world's workers, great and small, mighty financiers and scrubwomen.

The important implications of the third purpose "to lead the child to think in terms of the advisability of organizing his future school activities around the idea of becoming a contributing worker" are few, but exceedingly significant. The first is that pupils must be taught the dignity of work—that work is our inalienable right and privilege as well as our duty. Our youth are sick unto death with the idea of easy money—something for nothing. The confessions of the adolescent desperadoes

who have stuck up someone, or who have wantonly killed for money, are always in terms of trying to escape obligations to labor in favor of the easier way. How infinitely harder that way is, they realize when they face the gray walls or the executioner. Another implication is that a man must love the work he does if he would achieve any great measure of happiness, for no choice transcends the choice of a life work, excepting only the choice of a life partner. A third resides in the fact that it is right for a boy or girl in building an educational program to build it around a specific objective, preferably a vocational objective. We hear too much of the accusation that such a viewpoint is materialistic, that a child's spirit is tarnished if he allows the thought of life work to influence his high-school or college life. I deny it. More, I assert that for the great majority of our secondary and college students who float along the current without rudder or compass, the lack of purpose is vicious. Modern educators who hide behind the rent veil of liberal education when they make effort to liberalize it are utterly reprehensible.

The last aim, "to enable the child to meet more intelligently the simpler problems that arise in every-day life in each of the occupations experienced," is subordinate to the other three. The work done in the shops should, of course, be practical in nature, and the projects chosen should be within the ability of the pupil. But neither the project nor the practicality of this should assume an importance overshadowing the other aims, a contingency very likely to overtake the unwary.

The fourfold purpose just outlined implies more than one or two hours a day in the shops. It means a comprehensive, coordinated, full-day program in which every department and every teacher has a part. The academic courses of study, history, mathematics, and English, should serve to illuminate and wherever possible to actually supplement the experiences the boys gain in the shops. The teachers of academic subjects must sympathize with the industrial-arts program, and be it said that their sympathy is generally in direct proportion to the degree of understanding they possess. They should be acquainted with the

practices, the terminology, and wherever possible even in a limited way, the technique of each occupation scheduled in the industrial-arts program. Given such a teaching staff, given a leader firm in the belief of the reality of industrial-arts education, what are the limitations we shall dare to set?

The question "What are the aims and functions of vocational education" can be answered more easily and in less time, for we are fairly well agreed as to what it is we are trying to accomplish. The issue is clear-cut. In vocational education we are concerned with an individual who has on some basis arrived at a decision as to his future life work. It may be an individual in the high school deciding for the first time; it may be a mechanic desiring to change his vocation in whole or in part—in both cases the problem the vocational educator faces primarily is the meeting of that need so as to enable the individual after training to participate effectively in the calling he has chosen. Failing in this test, given ability and persistence on the part of the trainee, the vocational educator has failed at the very heart of his problem. For us to assert that the individual is a better all-round citizen for the training irrespective of vocational success, is to hide behind a veil also, and is more reprehensible, for we claim to know what we are about. To say that we have given certain experience which will be valuable vocationally in any occupation the individual may enter, is to admit a fogginess of aim approaching opaqueness. We stand or fall first of all on the economical effectiveness of our training. Whether or not an individual can earn more money in his chosen vocation by virtue of the training he has taken in a vocational school must be the final criterion by which vocational education is judged and by which we judge ourselves. I welcome the test, for it is the reason for which we vocational educators exist in the educational scheme.

Given this aim realized, I wish to stress other aspects. From the vocational school must come the working *man;* a man not only able to hold his own in the skill and artistry of a particular occupation, but a man who shall have the wisdom to choose leaders of vision; a man who shall require of his leaders allegiance to Truth, to Law, to Government; a man who has within himself

the potentialities of leadership; a man who will have sobriety and honor as a basis for living; a man who will recognize the interdependence of employer and employee; a man who will see clearly that the home he owns and the money he has in the savings bank represent capital just as truly as the factory in which he works represents capital; a man who will measure the life he lives not by what he can get out of people but what he can give to people.

This is the great opportunity of the vocational school. To its doors come picked youths possessed of the high purpose of training themselves to be economically independent. They are filled with the aspirations and ideals of youth and, at the same time because of their high purpose, are already thinking in terms of the responsibilities of manhood. At no time in their lives can the appeal to all that is best within them be made with greater effect. At no time can false doctrine leave a deeper scar on their characters.

The public school occupies a strategic position in this matter. It is above all suspicion of bias or prejudice. It exists for the teaching of Truth, not the half-truth of the pharasaical employer, not the half-truth of the radical unionist, but the Truth of the scientist, the educator. The potential worker, as he grows in proficiency in his chosen occupation, must also grow in understanding of the truths of the industrial and social relationships he will face as an adult. He must be bulwarked against false doctrine, against the sway of unscrupulous leaders, against all that would prostitute his high calling to mean and unworthy ends. Failing in this, the vocational school fails just as truly as if it turned out an inefficient workman.

JOURNALISM

MARGARET SULLIVAN, *President, Journalism Association of Ohio Schools,* Presiding

THE PLACE OF THE MAGAZINE IN HIGH-SCHOOL JOURNALISM

J. S. MYERS
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The word *magazine,* derived from the old Arabic, meant storehouse, and its application is clear. Since the *Gentlemen's Magazine* was established in England in 1731, there has been an unending supply of such publications of all kinds and conditions, of all degrees of usefulness, storehouses of more or less worthless contents.

I believe that every school that can, should have a publication, and if only one is possible, that appears to be the magazine. But I do feel honestly sorry for the school that has not at least a weekly medium of communication in which the many interesting events of the institution may be recorded. Even when the magazine contains so-called news, it is likely to be stale when appearing at monthly intervals. But passing over this, let us say that the magazine affords an invaluable means of expression to students of literary aspirations. I thoroughly believe that inspiration and encouragement come through publication. Reams of good literature may be hidden away in pigeon holes, things written merely for the pleasure of the writer and a friend or two, but I doubt it. We see literature sometimes in personal letters posthumously published, as for instance the Page letters, but the world would not have its treasures of prose and poetry without the incentive of publication, fame, and monetary reward. Teachers of English may develop and guide promising writers, but how much easier their inspiration and instruction when aided by the hope of publication in the school magazine. I cannot of necessity be sure of my facts, so I shall put this part of the argument in the form of questions. Would Shakespeare have written what he did (or was it Bacon), without a public? Did

Milton write *Paradise Lost* for his own edification? Did Dante write the *Inferno* just to prove to himself that it could be done? Did Robert Louis Stevenson write his masterpieces simply to forget his physical distresses? Hardly. These men wrote for the world and did their work far better than they would, had they thought only of themselves. If there is good argument in this, then there is reason to encourage our boys and girls by assisting them to issue magazines, these storehouses of good prose and poetry.

In the teaching of English at least two objects are in view: appreciation of writing with the development of the critical sense, and the improvement of expression and style. Classroom work and themes are useful, but if to these can be added the promise of publication, how much more incentive there is for the pupil to do his best, and, moreover, how much easier it is for the writer to see his own weaknesses. The cruel or kindly light of print, if I may use such a figure, is something to be reckoned with.

The reasons for the high-school magazines are just about as obvious as the reasons for the school itself. Because the school is not all that it should be, does not supply reason for its abolishment, but for reforms. Scores of faithful teachers and ambitious pupils in Ohio give their best endeavor to these magazines, and in many cases succeed admirably. Their good products afford them compensation and joy and urge them on to greater efforts. If someone asks "What is the justification of the high-school literary publication?" the answer is that it encourages good writing, and good writing necessitates good thinking, which is certainly the chief aim of education. Proof that the magazine does this is given by some of the publications in this year's contest. I am quoting one of the judges: "Several of the writers are old beyond their years. Judged by college standards, their writings are good. Three or four of these writers would improve the *Lantern* staff considerably. Some of the writing done was better than any I have seen in the *Candle* this year."

The magazine has an educational value in familiarizing members of the staff with the technique of editing, printing, circulation, and advertising, all of which is aside from the literary work

but quite as essential. The study of makeup, typography, cover, and format both of the school's own publication and others has a distinct value. The alert editor and business manager will surely pick up much information about type face, ink, engraving, and paper, that will be serviceable in the future.

It is worth something to a group of students to be even for a little while in what may be called the literary atmosphere. There is all too little of the strictly academic in modern schools, and this is ample reason for teachers and pupils to give encouragement to the magazine. It is true that youthful interest will be stirred by good prose and poetry written by fellow students. The pupil, like the prophet, may be without honor in his own environment, but even if he is read only to be sharply criticized, there may be advantage to him and the critic.

Let us not forget the teachers in this hurried survey of the magazine. While the adviser in particular may have to take on added hours and responsibility, there is certainly reward beyond that of the routine teaching. Joy comes with the discovery and budding of a boy or girl who can write, and more joy follows if that pupil becomes famous so that the teacher can claim ever so small a part in guiding him to success. I don't see how a teacher who assists in the publication of a magazine can fail to get a thrill out of this one of her many duties. Moreover, the whole school shines in the reflected glory of a brilliant magazine, not the same glory that comes from a winning team, but of equal brightness.

All the teacher's store of tact is often drawn upon to guide and advise without seeming to control. Skill must be shown in handling the headstrong, and patient sympathy in heartening and inspiring the capable but diffident writer or the shrinking soul who needs all possible stimulation. The leader who has learned the secret of handling subordinates of all kinds of temperaments is the rare person in this world. Perhaps no handling is more difficult than that of writers, unless it be of opera singers and actors.

It is sometimes a source of legitimate wonder why certain schools have neither newspaper nor magazine, and in some cases

no doubt perfectly valid reasons exist. I hope it is not true, as is sometimes alleged, that teachers and higher-ups in the school organization are opposed, either because of unwillingness to assume the extra work, or of indisposition to take an added responsibility, for real work and worry are connected with a publication of any kind.

This suggests the dangers that may arise from a desire on the parts of editors and writers to conduct a journal of opinion. Far be it from me or you to decry opinions—they are one of the most important products of education, but there are opinions and opinions. We are playing with edged tools when we begin broadcasting half-baked ideas, whether of the so-called mature mind, or the one that is not even so-called. Opinion soon becomes criticism, which in a moment or two becomes personal and ugly. It is so easy for youth to be militant, so easy to demand reforms, even of institutions and customs that have withstood the test of the generations, so easy to get restive under restraint. The trouble with so many of our opinions is that they have not been well considered, and fully tested. To break a lance, maybe just for the joy of the breaking, is one of the pleasures of youth. I do not believe that the school magazine should be a journal of opinion. Its purpose is literature, whatever that may be, the encouragement of good writing, the adequate expression of thoughts that merit expression, the orderly setting down of ideas that will make for better living and thinking. The editor of a magazine and the adviser who can bring about even in part such a consummation will certainly have stars in their crowns.

MAKING BETTER HIGH-SCHOOL PAPERS

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Amazingly little is known about scholastic journalism by the general public. Even educators on the whole have only a sketchy idea of this so-called "student activity." I believe it is much more than a mere activity—rather an important and vital educational process.

By scholastic journalism is meant school newspapers, magazines, yearbooks, and handbooks. The latter is the newcomer in the field of school publications. It is a convenient vest-pocket volume of interesting and useful information which is particularly helpful to the Freshman and other newcomers in the school community and hence called the "freshman Bible." This handbook seems to me to be largely a by-product of the newspaper. It is to a school newspaper what the *World Almanac* is to the *New York World*. The magazine and annual are the oldest of the school publications. The newspaper, however, has undoubtedly become the most influential and valuable of all the school publications.

Scholastic journalism is rapidly becoming a vital and important force in American journalism. Its power and influence are not generally known because it has no press agents. It has not reached its maximum power; in fact, it has not altogether found itself yet. But it is built on high idealism and sound principles. Statistics furnish, perhaps, the most convenient means of indicating the extent of school publications. An advance summary of the latest biennial educational census reports 16,419 public and private high schools and academies and 1,041 normal schools, colleges, and universities. The publications of schools above high-school rank have so much in common with the secondary-school publications that the two may well be considered together. This gives us 17,460 schools. No exact statistics are available on the number of publications issued by these schools. I have, however, prepared estimates based on percentages obtained from fairly accurate surveys made in different sections of the United States which give the following totals:

Newspapers	10,400
Magazines	2,600
Yearbooks	12,200

The total number of school newspapers is approximately the same as the total number of all community weekly newspapers. One hears much about the power of the country press. Before long I firmly believe that we shall also hear as much about the

power of the school press. Adding the magazines and newspapers together, their total circulation is also comparable with that of the weekly newspaper. The readers of these publications, it should be remembered, are above average intelligence.

The school yearbook is a distinctive type of publication that has no exact counterpart among general periodicals. It provides a historical record of the growth, life, and progress of a school and occupies a definite and indispensable place among school publications.

Scholastic journalism, such as I shall talk about today, serves a fivefold purpose:

1. It acts as an integrating force in the school.
2. It improves the outsider's understanding of the school.
3. It aids scholarship.
4. It develops the talent for leadership.
5. It trains for thoughtful citizenship.

The newspaper serves all of these purposes specifically through its news, editorials, and even its advertising. The annual, by summarizing the achievements of a school at the end of each year, makes possible the measuring of progress from year to year. Between the newspaper and the annual is a gap which can best be filled by a magazine. The newspaper is specific and detailed; the content of the annual is concise and prescribed; the magazine, because it is not circumscribed by restrictions, can become, and often does become, the spiritual organ of the school. It can stimulate both dreams and action. The freedom which the magazine may enjoy makes it possible for it to be the most inspiring of all the school publications, but likewise makes the publishing of a magazine the most difficult task in scholastic journalism. It is now the weakest of the school publications. All this has been said by way of setting for the topic which has been assigned to me, "Making Better High-School Papers."

The past ten years have been the great development period of the school newspapers. At the start they were largely dull joke sheets with uninteresting front pages devoted almost exclusively to athletic news. They have now become bright, *news*papers more deserving of the prefix "news" than are many of our

dailies. There remains much for them to do, however. Staffs, often the advisers, and still oftener I am sorry to say, school administrators have at best only a hazy idea of what the newspaper is all about. In many schools, papers exist chiefly because it seems to be the fashionable thing. The progress I have mentioned cannot be credited to such schools even though their papers show improvement yearly. This improvement is the result of further imitation. One who studies over a great number of school newspapers finds that many of them are made up almost entirely of borrowed ideas. If the selection is good, the first impression is also good. But when one goes deeper into the analysis of such papers one finds that they are not such valuable school organs as they might be. Do not understand me to say that I am opposed to the exchange of ideas. I believe in it. But ideas must always be adapted to the needs of the individual school. Discover the newspaper needs of your school and then look for ideas that will help care for those needs. Such borrowing results in progress. "Don't," as William Rockhill Nelson, founder of the *Kansas City Star*, once said, "let the other fellow make your paper."

This warning against aping applies to the borrowing of ideas from the daily press as well. School-newspaper staffs can learn much by studying daily and weekly newspapers for ideas that can be adapted to their needs. What I mean by aping can be illustrated by one example. One time after I had been one of the judges in a school newspaper contest, I received a letter from the adviser of a paper, which, though good, was not considered for the highest award. This adviser questioned the integrity and competency of the judges because the award had been given to a newspaper printed on book paper and not on newsprint. "Any one ought to know that *real* newspapers are never printed on anything except newsprint," he told me. As far as I could ascertain, this bit of ignorance on our part was the only fault he could find with our decision. Aping is always likely to result in trivialities obscuring essentials.

Study daily newspapers but do not try to reproduce them. The school field requires a different sort of newspaper. The

weekly newspapers, however, can give high-school staffs many valuable suggestions. County weeklies and school papers are published as the organs of compact communities with many common interests. I recommend strongly that every school publication library have copies of the best books on community journalism.

Why should we have school newspapers? For the same reason that professional and trade journals, house organs, and community newspapers exist. The school newspaper has some characteristics in common with all of these. The school can be made to function with greater efficiency if it has an organ of its own. This organ is an agency in which common interests are dealt with—in this respect it is like a professional publication. It is a house organ for the cause of education, and it is like the community newspaper in that it deals with the activities of a very specific community group. In the matter of selection and organization of material it is like the newspaper.

The most widely used textbook on journalism tells us that "the present-day newspaper undertakes to accomplish five ends: (1) to furnish news, (2) to interpret the news and to discuss current issues, (3) to give useful information and practical advice, (4) to supply entertaining reading matter, and (5) to serve as an advertising medium." This statement of aims is an excellent summary of the objects of a school newspaper as well. In some cases the fifth aim does not apply.

The school newspaper is a group enterprise. It stresses news, features, and editorials of interest to the school community; it interprets the significance of events in the light of school conditions; it should be the joint product of the staff with the counsel of a competent and sympathetic adviser, and the student body. The newspaper must be regarded as more than a staff enterprise.

The publishing of a real newspaper consists of more than the gathering of the obvious, easy-to-get news and personals, soliciting subscribers, building up advertising patronage, and worrying about printing costs. The best newspapers of the present are being published by staffs who are intelligently determining how their newspapers may best serve the complex organiza-

tion which makes up the modern school system. The rendering of service means the supplying of an organ that will make the needs and the interests of the school articulate. To render such service necessitates an understanding of the school, its organization, and its problems.

To build the news and editorial policy and even the advertising policy of a newspaper on a solid foundation requires the making of a comprehensive review of the past, of existing conditions, and of the resources of the school. Such a survey will give the adviser and staff the assurance they need and will enable them to see conditions as they are seen by the various groups within the school. Such study is of a threefold value to school newspapers:

1. It enables them to fill their news columns with matter that will interest every reader and will make readers of those who do not take the newspaper. It opens up new and uncultivated news fields.

2. It supplies the staff and those interested in the school with vital editorial material; facts which point the road to progress by indicating the proper solution of existing problems.

3. It furnishes advertisers with information that will enable them to prepare advertising with a greater appeal. Newspapers which are able to supply such information are those that get the advertising patronage.

The school of today has problems to face that did not confront schools up to fifteen years ago. The automobile, the movies, the radio, for example, have all contributed to distract the attention of students from their school work. It is so easy to go some place where things are lively and exciting that it is hard to give much thought to school work or to the school activities that flourished in the past. For example, the debate club was once a real and healthy institution in all schools, but now it is weak and anemic in many places.

The school publication which is an intelligently edited *student* publication, can counteract most of the distractions. It can interest students in those things which should interest them and which will interest them if presented properly. It can also be an ally of the distracting influences. I am glad to say that the great majority of school publications are working on the right line. A better appreciation of what they are trying to do, however, would improve most of the newspapers I have analyzed.

Making a survey or study of a school organization is constructive reporting. To organize the facts that determine the growth, thought, and progress of a school is the great opportunity of the school newspaper. Such studies are interesting and valuable to every one in any way related to the school system or community, and for that reason, to the newspaper most of all. The staff which knows the deep buried influences that are at work in their school as well as the surface conditions can exert real leadership. A cursory knowledge is not sufficient on which to build a constructive news and editorial policy. The work of making such a school study falls into two parts: (1) the organizing and correlating of information already compiled and available; (2) the gathering of the more elusive and less easily obtainable facts through research—another name for reporting. News so obtained will result in a newspaper which gives the readers what they want, for nothing interests readers so much as that which deals with their every-day interests and activities.

These general divisions may be subdivided into convenient units each of which offers opportunity for a feature story of paramount interest in the school. When the survey is completed the staff has at its disposal the material with which to organize a sound, constructive policy. The analysis of a school may be divided into parts such as are indicated by the following headings: (1) the historical background, (2) the organization and administration of the school, (3) the school plant, (4) services the school renders the community, (5) the curriculum, (6) student activities and organizations, (7) library facilities, (8) health and recreation, (9) a study of school-interest groups. Discover that which helps the school fulfill its purpose; find the influences that hinder. There are many excellent books which will aid you and your staffs to map out the plan. Such a program as has been outlined will help to improve every department of the school paper. It will make possible its development for the training of sound citizenship.

Let us briefly analyze the five aims of a newspaper as given in the quotation from Dr. Bleyer's book which I read you and consider what we can do to improve the efficiency with which school newspapers fulfill these aims.

1. To furnish news.—The first step in the problem of furnishing news to the readers of a newspaper is to systematize the covering of news sources. This should not be a haphazard job. The news sources of a school publication may be classified as follows:

1. Administration: meetings of the school board, the office of the secretary of the school board, the superintendent's office, the principal's office, and the city council when school questions are up for consideration.
2. The faculty and classroom news: new class projects that are being undertaken, addresses that the teachers are making.
3. School organizations and activities: reports of meetings, progress of committees. Committees that are supposed to be active can be kept on the job by the right kind of newspaper.
4. Athletics: do not limit this to a report of major teams. Encourage widespread use of the gymnasium facilities by keeping the school interested in the class teams and club teams; encourage the organization of hiking groups and the like.
5. Parent-teacher organizations.
6. Alumni: the secretary's office and such other specific sources as can readily be developed.
7. General: sources of information which can give you news about lectures and concerts outside of the school.

There may be other classifications also. List all of these, and then under each of these classifications organize as complete a list of specific sources as possible. Next work out a systematic schedule of runs for the covering of each of these sources for every issue. Such a schedule will make your news service complete—news need never be scarce. This plan provides something of specific interest to every group in the school.

In addition to all these news centers regard every student in school as a news source. Make it a rule to get the name of every student in school into the paper at least once a year—twice would be better—in connection with some worthwhile event. Check off the names of students as this is accomplished.

General events in your town which should be of interest to the students of your school should be announced and reported for your paper. Make your news service to the students complete. Remember always all the competing influences education has to meet. The school paper is the agency that can meet this competition most successfully.

Some schools have increased the efficiency with which classroom work and certain activities are covered by preparing comprehensive news-gathering forms such as general newspapers use for weddings and obituaries. Wichita, Kansas, and Boise, Idaho, have produced excellent forms of this sort. Other newspapers, both school and general have done much to teach their readers to aid in the gathering of news. It is a plan worth trying. If you do not now keep a future book and an assignment book, visit a daily newspaper office and have the editor show you how these can be used with efficiency.

II. To interpret the news and discuss current issues.—The handling of school problems will be immensely improved by a school survey. The essentials of good editorial writing consist of three steps: (1) knowing how to gather the material needed; (2) knowing how to organize this material; (3) deciding on the most effective form of presentation. Getting results depends on three things: (1) having a definite conception of the object to be accomplished; (2) sticking to one campaign until action results—one-time editorials have no more influence than a one-time advertisement, *persistence* is needed by both if results are really sought; (3) utilizing supplemental agencies. These reinforcements may consist of the support of organized groups; the legitimate use of news columns (read the story of the *Kansas City Star* entitled *Willian Rockhill Nelson, the Story of a City, a Newspaper, and a Man*); and the use of exhibits and displays.

To the editorial discussion of school problems I should like to see school papers add one other feature. Teachers often complain about the lack of student interest in the subject-matter of the classroom. Civics, history, science, and many other subjects could be made fascinating if students would look on them as something vital and real. I believe a column of lively, explanatory articles of three or four paragraphs showing the relationship between some current news event and classroom subject-matter would be of real interest. This could be prepared by the teachers whose courses were involved. A by-product of this idea is that it might help to keep some teachers in closer contact with the developments in their fields and this alone would improve their courses.

III. To give useful information and practical advice.—Feature stories obtained from a school analysis, interviews, book reviews written for student readers, very short extracts of really significant and appropriate material for a school paper taken from current magazine articles, all offer suggestions. Some of these may be regular departments on the editorial page and others offer ideal front-page copy.

IV. To supply entertaining reading matter.—I hope that from the suggestions I have offered so far no one believes I am advocating a dull paper. An uninteresting school paper is worthless, but none of the things I have suggested need be dull. They are all closely related to the interests of those associated with the school and if well written, will be read and enjoyed. Every one is interested in that which is close to him. A country weekly filled with personals and the day-by-day activities of its community seems dull to a stranger, but every line is read by every member of that community. You will find the same true of your school community.

In addition to the serious content there is a place for entertainment in the school paper. I do not believe, however, this entertainment should consist of reprinting the joke columns of newspapers, magazines, and exchanges. Youth is full of pranks. These pranks make ideal human-interest copy, enough will be left over to make a column of original humor for the editorial page. In the April issue of *The Scholastic Editor* will appear contributions from two sources of humor columns that I should like to have every one of you read. For additional ideas that I believe can be adapted most successfully I would urge you to read in Merle Thorpe's *The Coming Newspaper* (Henry Holt & Co.), the chapter by Ralph Tennal on a "Modern Type of Country Journalism." The title of this chapter may not promise much but disregard that.

V. To serve as an advertising medium.—It is my object to limit my talk to the content of the newspaper, so I shall refer to advertising as reading matter. To serve as an advertising medium, a school newspaper should carry no advertising that is not interesting to its readers nor valuable to the advertiser. If your

paper must live by donations solicit them as such and use the space given to "charity" advertising for copy. An advertisement reading "The compliments of the Blank Real Estate Company" is a disgrace to a newspaper. Starting in the April issue, *The Scholastic Editor* will carry a series of two articles which I believe will help in solving the advertising problem. Many school publications are rendering notably good service to their advertisers and among these, Ohio papers are the leaders.

May I say just a word about news writing and copy editing. I have found in many schools that the teachers of English doubt the value of the school newspaper because they say it tends to train students to write "journalese." Newspaper style is no different from any other style. It starts with the topic paragraph, and each paragraph starts with the topic sentence. This is a most desirable form of composition to teach. I know of no better training to develop in students than the ability to distinguish between that which is essential and that which is non-essential. I know of no better training in efficient writing. Newspaper news style teaches students to tell quickly and easily what they have to say. Nor is the training one receives in writing for a newspaper one-sided. Feature articles and human-interest stories require the employment of every good rhetorical device and literary form. What better training can one desire than that furnished by writing for a school newspaper?

I mention copy editing to protect myself. Some will say that a school paper could not carry out the suggestions I have offered because of space limitations. Most school newspapers could accomplish much in the condensing of their stories. The average school paper could tell every fact in every story it carries in half of the space used.

There are many more things I should enjoy talking about in connection with school publications. I hoped I should have time to say a few more words about annuals and magazines, but I find the subject of newspapers alone is more than I can deal with adequately.

I believe in the school newspaper. I believe in the entire program of scholastic journalism. I believe that the school

newspaper in particular is destined to become one of the most important forces of social control. The kind of newspaper published in the high schools will determine the kind of newspapers which students will read upon graduation. If they can be interested in worthwhile news about worthwhile things when they are so closely related to these matters that their interest is natural, I believe the habit will carry over when the contact between that which is important is not so close. I always urge a school journal to pattern to some extent after the make-up of the best newspaper in its community. It helps in the process of transition from the school newspaper to the daily newspaper after graduation. Sensational make-up and practices have no place in scholastic newspapers.

The success of the principles which schools of journalism are trying to teach must wait on the training of a class of readers who want the kind of newspapers which will result from the application of these principles. I commend scholastic journalism to the attention of those who have given it little heed. It is growing better and gaining influence rapidly. To you who are advisers I extend my congratulations on the splendid work you have done. You have a great responsibility and a great opportunity. I know you will continue to make the most of it.

JUNIOR HIGH-SCHOOL PRINCIPALS

H. F. Vallance, *Principal, Indianola Junior High School, Columbus,* Presiding

TRAINING TEACHERS FOR THE JUNIOR HIGH SCHOOLS

Paul C. Stetson
Superintendent of Schools, Dayton

If the junior high school in any community is to be successful, the teachers must be carefully trained for their new work, and proper standards for such teachers must be set up. At present, in the state of Ohio, we seem to have no recognized standards. However, the teachers of the seventh and eighth grades in the junior high schools should be experienced grade-school teachers, and teachers in the ninth grade should hold diplomas from recognized colleges or universities. Under the present laws of Ohio, no provision is made for certification of junior high-school teachers. Such provision through the law should be made as early as possible.

The superintendent who contemplates opening a junior high school should plan intensive courses for his teachers at least a year prior to the opening of the school. These courses should include (1) psychology (general and educational), (2) psychology of adolescence, (3) history of education, (4) principles of high-school education, (5) school hygiene, (6) social education, (7) sociology, (8) special methods of teaching, (9) vocational and educational guidance, and (10) courses designed to make the teachers familiar and sympathetic with the objectives of the junior high school. This plan was tested in Rochester, New York, with very excellent results. In Dayton we have not used the plan so intensively as was done in Rochester, but we have endeavored to prepare our teachers by offering courses prior to the opening of our junior high schools. It is also essential that teachers shall continue their training after they have been appointed to junior high-school work through extension classes and summer school.

THE CHIEF FUNCTION OF THE JUNIOR HIGH SCHOOL

EDWARD RYNEARSON
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Twenty years ago three principal arguments for the breaking up of the unnatural, unscientific, and indefensible 8-4 divisions of the public school were: (1) individual differences, (2) promotion by subject, and (3) the departmental method of teaching which had already been adopted in the upper grades of many of the elementary schools. While this plan is open to many objections, largely through a lack of good teachers and supervision, nevertheless the advantages far outweigh the disadvantages.

Most of the definitions of the junior high school stress the attention to individual differences as the *raison d'être* for the new departure in school organization. In order to care for these differences properly, the course of instruction as well as the course of study was reorganized. The twelve-year-old child was recognized as an adolescent, and his school life was planned accordingly. School was to be considered not only "a preparation for life, but life itself." No longer were the future citizens of a democracy to be trained as subjects of an absolute monarchy; they were to be trained in a democratic school. The subjects were socialized. The spirit of the entire school was changed.

Some teachers thought that the millenium had come and they would not be expected to have anything to do with the discipline of the school. They did not appreciate the fact that cooperative government should become the laboratory for the formal and informal teaching of civics, manners, and morals, and that the services of the teachers would be more needed than ever. We should no more turn over the government of the school to immature, inexperienced children than we should give them a textbook in geometry and expect them to get theorems and problems.

Neither can you turn the children loose into the "exploratory" or "gearing-up" courses. As they pass through these short courses, they must be closely observed and checked. The advantage of these short courses is that they serve as stimuli to the pupils. The various responses must be noted and used in assisting the child to find himself and to select the best course in high

school. Dr. Conklin, of Princeton College, says, "There is an infinite slaughter of potential personalities in the form of germ cells which never develop. A more dreadful though less universal tragedy is the loss of real personalities who have all the native endowments of genius and leadership, but who for lack of proper environmental stimuli have remained undeveloped and unknown. Great crises always discover great men. What does this mean but that the men are already formed, and that it requires only this extra stimulus to call them forth. The possibilities within us are great but they rarely come to full epiphany." Does this not emphasize the place of the try-out courses in the junior high school?

Mr. J. M. Glass, former principal of the Washington Junior High School, Rochester, New York, says "Guidance is the sole function of the junior high school." *Junior High-School Life* shows a chart representing the junior high school as a lighthouse with light emanating in the different forms of physical, vocational and ethical guidance as the rays. In fact the entire book is devoted to guidance.

The exploratory courses, the extra-curricular activities, the homeroom meetings, the assemblies, are not organized to perfect themselves, but they are the means of assisting these immature children to find their aptitudes and interests. Through these means the teachers may assist the pupils to select courses of study in accordance with their capacities and needs. Every child in our democracy is entitled to this consideration as his birthright.

Teachers have always consciously or unconsciously been guides to the children in their charge. The guidance has not always been so good as it should have been. The time and energy of the teacher have been divided among the hundred or more pupils that have been with them during the day. These pupils are so many different problems and few teachers have time to help the pupil plan his own future. For this reason there are one or more teachers or trained counselors in many of our schools who give their entire time or a part of it to the problem of guidance. The counselor should be the principal's right-hand man. He should

assist the principal in looking after the failures, the drop-outs, and many similar details. Under no conditions, however, should the counselor have any disciplinary duties. It is evident that much of his work will be among the pupils. If the counselor is known as the official disciplinarian of the school, he is thereby deprived of much usefulness. One of the first requisites of a successful counselor is that he be able to win and retain the confidence of the student body. Pupils will not feel free to come to him with their life questions if he has scolded them.

You will agree that a counselor must have a broad education, though not necessarily a classical one, for a classicist is often narrow and unsympathetic. A counselor should have a wide outlook on the work of the world. He must realize that there are many thousand different occupations and that the distribution of persons among these occupations is practically permanent. He must be big enough to gain and hold the respect of the entire teaching force. He must not help the teachers patronizingly but happily because they are helping him to do his work. A counselor who has been active in many occupations has an asset as he plans the work for teachers and pupils. His reading should enable him to refer teachers to helpful books and magazine articles.

In order to avoid duplication of work and to cover as much of the field of guidance as possible, the counselor should have a program covering the high-school period by semesters. In Pittsburgh we have one or more counselors for each high school. During the first three years in the history of our department, each counselor followed his own plan. Since that time the following program has been in use:

PROSPECTIVE HIGH-SCHOOL PUPILS

It shall be the duty of the counselor to meet with all prospective incoming pupils twice before they enter high school. When possible, one of these meetings should be so planned that parents may be present when the different courses are explained. It shall be the duty of the counselor at this meeting to stress: (1) the need of training beyond the elementary school; (2) what the Pittsburgh Public Schools have to offer beyond the elementary school; (3) the courses offered in the high school and where they are intended to lead; (4) how the home and school can cooperate for the best interests of the pupil; (5) state requirements for place on honor roll or membership in Honor Society. It shall also be the duty of the counselor at one of these meetings to advise all prospective pupils regarding their individual programs of studies.

Junior High-School Pupils

1. 7-B. Group visitations by regularly scheduled classes to high-school departments other than those with which the pupils come in contact, for the purpose of developing an appreciation of the opportunities offered by the high school. Group conferences with regularly scheduled classes for the discussion of vocational aims and the filling out of blank form V. G. 1.
2. 7-A. Group conferences with regularly scheduled classes for explanation of courses open to 8-B students, and discussion of the aims of the various courses. Conferences with individual students for the determination of 8-B schedules.
3. 8-B. Group conferences with regularly scheduled classes for the discussion of the significance of subjects pursued in various courses. Conferences on blank form V. G. 1 for possible changes.
4. 8-A. Group conferences with regularly scheduled classes for the discussion of the value of further education. Individual conferences on courses and electives for ninth-year programs.

Senior High-School Pupils

9-B. It shall be the duty of the counselor to meet all 9-B pupils in regularly scheduled classes or groups during the early part of the semester. At this meeting, blank form V. G. 1 will be explained by the counselor and filled out by the pupils. This meeting will offer opportunity for emphasizing the need of vocational information, for encouraging a study of the vocations, and for urging a thorough preparation of school tasks. The counselor should also explain his function in the school.

9-A. In an inspirational explanatory talk to all 9-A pupils in regularly scheduled groups or classes, the counselor should undertake to explain (1) the kind of credits required for graduation from each course offered in high school, (2) the requirements for definite college courses and the necessity of the pupils' making early application to the college, (3) the opportunity that comes to pupils who do high-grade work throughout their entire high-school course to participate, on graduation, in the award of scholarships that are offered by many colleges, and (4) the requirements for entering vocational life on leaving high school. This conference should prepare pupils to fill out blank form V. G. 14, at a meeting to be arranged by the counselor later in the semester. This meeting may well be held with the respective report groups. The attention of 9-A pupils should be called to the vocational possibilities of Pittsburgh and the work of the public-school employment offices.

10-B. The counselor shall meet all 10-B pupils in regularly scheduled groups when special emphasis shall be laid on Pittsburgh industrial life and the kind of opportunities offered young people trained and untrained.

10-A. The counselor shall meet all 10-A pupils in regularly scheduled classes or groups where he shall undertake to show the value of the last two years of high school. The opportunities of other educational media than the high schools should be explained to them but only by way of comparison as to the opportunities offered. These other schools should include the public evening high schools, correspondence schools, private business schools, and other special schools of similar character.

11-B. The counselor should meet with all 11-B pupils in class or other special groups in order that a review may be made of the best use of electives. This should be done during the first two weeks of the semester so that any necessary schedule changes may be made.

11-A. There should be individual conferences with all 11-A pupils during this semester. Such a conference should make certain that every pupil's program is complete to date and that there is a proper understanding of what is to be accomplished during the senior year, both as to immediate vocational aims and college-entrance requirements.

12-B. A short talk to groups or special classes, setting forth the purposes of the local placement offices should be given.

12-A. The counselor should meet personally all pupils of this group who may need his services in arranging for college entrance or for any other purpose. He should also arrange a meeting at which representatives of the placement offices may be given an opportunity to explain what can be done for those not going to college.

It is impossible to put down *all* the duties of counselors. Their attitude toward the entire school counts more than any prescribed group of specific duties. The following list of duties discussed at a Pittsburgh High-School Principals' Round Table brought out the fact that

THE AIM OF ALL GUIDANCE IS SELF-GUIDANCE

1. Meet all pupils of the school every semester either in groups or individually.
2. Secure and retain cooperation of entire teaching force by: (a) furnishing material for class use along guidance lines; (b) making them feel that the extra compensation (small though it is) is well spent; (c) getting outside information about pupils, usually by home visitation; (d) meeting pupils upon their return to school and assisting them to catch up; (e) being fully informed about requirements of colleges, industries, and businesses; (f) assisting those who teach in the prevocational work.
3. Analyze a pupil that he may see his assets and his liabilities. (Of course this analysis is not to be taken too seriously.)
4. Keep in mind the intelligence quotient of the pupil who is being interviewed. Chart the school and give a chart of the section to each homeroom teacher.
5. Cultivate an intimate friendship with the pupils so that they will feel free to speak to the counselor at any time. Be a chum.
6. Supervise class in occupations, but not necessarily teach.
7. Impress the pupil with the advantages of educational training. Show that most of the reasons for leaving school are usually trivial and without foundation.
8. Counselors should utilize the cooperative plan more and more. The opportunities are not fully appreciated. More pupils would remain in school and at the same time, get valuable training for life work.
9. Interview employers. Get their point of view and needs. Link up the professional, business, and industrial interests.

10. Give all information obtained about pupils to central placement office.
11. Meet all pupils of the eighth grade and explain the object of having elective subjects.
12. Confer with maladjusted pupils. If disciplinary problems are not involved, meet those who have not made passing grades.
13. Visit the homes of probable "drop outs." A visit to the home of honor pupils would be helpful to counselors, as well as an encouragement to the parents.
14. Consult with pupils who expect to enter college, in order that they may know the entrance requirements, costs, and vocational opportunities.
15. Consult with pupils who will enter the industrial or commercial world. Explain the preparation necessary for each. Adjust the courses accordingly.
16. Arrange the program for Educational Week and M. U. F. Week.
17. Keep in close touch with those activities that have value in guidance.

One of the biggest problems that confront the principal and the counselor is how to convince the members of the teaching force concerning the importance of vocational guidance. In 1922 the Department of Vocational Guidance of the Pittsburgh Public Schools published a bulletin of one hundred and seventy-five pages describing in detail the work of our department. Dr. Davidson, superintendent of schools, included this bulletin in the books to be read in the reading circle. In this way every teacher knew what was being done in his own school system. Representatives from our department spoke about the work in many of the centers during the month in which the bulletin was read.

Many of our high schools have a standing committee on guidance. The members assist the counselor with his program and in many cases make valuable suggestions. One important piece of work performed by this committee is done during Education Week. In addition to the other items of the program suggested by the Bureau of Education, the pupils make their choice of studies for the next semester. Before they choose, each teacher in the school explains the value of his respective subject to his classes. This is not only valuable to the pupil but it has required some teachers to think of their subjects in terms of life values.

An excellent feature of the week's program is the writing of themes throughout the school upon vocational subjects. One good topic for such themes is the value to the individual of some

particular school subject. Or a pupil may be required to investigate an occupation and describe its relation to his high-school courses. Previous to the writing of the vocational themes, outside speakers are invited to the high school to meet small groups interested in some particular occupation. The greatest interest is manifested by the students in these conferences.

During one period of the first day of Education Week, one of our largest high schools divided the pupils and teachers among twenty-six occupational groups. Each group was addressed by a person from our city who has been eminently successful in his or her particular occupation. As a result vocational guidance has a new meaning to the teachers and pupils of this school.

Various means of getting these ideas over to the students may be employed. The appeal to the eye is usually made by means of posters from the art department of the school. The school publication can be most helpful, being, in a way, the "voice" of the school which reaches practically every pupil. The programs of the assembly period for the week are made up largely of guidance material.

The advantages of such a week are manifold. The school openly takes its stand in the community as the necessary entrance to a busy and complex world. The pupils realize this and face the obligations of school with more enthusiasm. Parents, realizing that the school is considering seriously the future possibilities for their children, cooperate in helping them to make the best of their abilities.

In the Washington Junior High School, Rochester, New York, the faculty meetings for the year discussed vocational guidance. The list of topics is given in *School and Society*, January 6, 1923.

As a conclusion to this discussion, permit me to quote *Junior High-School Life:*

> In junior high school the pupil will discover his natural aptitudes when the school offers re-enforcement work for the weak, enrichment for the ambitious, experimental tryouts for the undecided, and special activities for promoting social efficiency and ethical growth.
>
> It is not overstating the case to say that the junior high school which fails to include a guidance program in its organization schedule is either stunted in its growth or has no excuse for existence.

THE JUNIOR HIGH SCHOOL FROM THE POINT OF VIEW OF THE ELEMENTARY-SCHOOL PRINCIPAL

C. A. Pollock
Principal, Reeb Avenue Elementary School, Columbus

The immediate effect of the removal of the seventh and eighth grades from the elementary school was to allow light to shine on the shaded areas. The middle grades have been discovered; under the traditional unit, they could receive but little attention. The pre-adolescent was figuratively lost in "no-man's-land." The removal of the adolescent has left a more nearly homogeneous social group. With this freedom, new pupil leaders are developing and better training in social responsibility is possible. This spirit in the new upper grades was impossible when the adolescent group dominated. By the elimination of the over-age pupils, disciplinary relief has resulted. Formerly, children who were held to grade standards without respect to their age and development of capacities other than intellectual, menaced the group as social misfits; now, their best interests are conserved by the provision made for them in junior high schools with others of their age level.

The shortened unit makes possible the application of our knowledge of a child's development. The years from six to eight are characterized by a certain negative achievement as the child learns to read, to write, to spell, to know numbers, to think, and to learn. These abilities change in the years from nine to eleven. In the primary grades he learns to read; in the elementary grades he reads to learn. First he learns to speak and write; but later he speaks and writes to express what he knows. Everything becomes individual, emerging from the group. "The elementary school or principal who claims the right to cramp or stunt the twelve-year-old, is only a little less criminal," says Dr. Winship, "than the curriculum expert who autocratically straps him to a machine that standardizes the cramping and the stunting." The new organization enables the elementary school to function as a "school of the elements."

Indirect reactions to this change should be unhesitatingly termed beneficial. We shall first consider such reactions emanating from the specific purposes of the junior high school: time economy, recognition of individuality, exploration of children's capacities, discovery of natural interest, provision for better teaching, higher standards of scholarship, and improvement of socializing opportunities. These functions are peculiar only in the sense of their contrast with the traditional grades. By no means need they be confined to the junior high-school period. Already we find abundant evidence of the wholesome effects from the percolation of these influences through to the elementary department. The measurement of ability; classification on the basis of these criteria; adaptation of instruction materials in the light of varying abilities and individual needs; the project method; the individual-instruction idea; the development of community interests; and the encouragement of pupil participation—these things today characterize the new elementary school as well as the junior high school. They are a reflexive influence, differing only in extent and degree. This is as it should be for it makes, through a partial performance of related functions, a correlation rather than an abrupt transition between the units.

In conclusion, I see in the junior high-school unit of organization, the realization of an imperative need in elementary education and the necessity for vitalization particularly in its upper grades. In the accomplishment of this end I see the broadening and enrichment of elementary work rather than the downward movement of work from the overcrowded high school with its college requirement limitations. I see in the breaking up of the larger elementary unit, the possibilities of a more intelligent, efficient, and economic ministry to the more homogeneous smaller units. Through a sympathetic understanding of the interests, aptitudes, capacities, and needs of the adolescent group, and through the provisions made to meet them, I see a wholesome service to the best interests of the pre-adolescent group—the elementary-school children. I see, from a larger perspective, the intermediate school as the keystone in the royal arch of education that spans the chasm of intellectual destitution. This, from the viewpoint of an elementary-school principal.

THE JUNIOR HIGH SCHOOL FROM THE POINT OF VIEW OF A SENIOR HIGH-SCHOOL PRINCIPAL

A. R. Keppel
Principal, Marietta

I have been asked to give you a picture of the junior high school from the senior high-school principal's point of view. I make no apology, but I want you to understand that this order is impossible for me to fill. Having served first in the senior high, then in the junior high, and now in a dual capacity, my reactions are necessarily colored by my experiences which have not been wholly in the senior school. But I shall be happy to pass on to you certain complimentary or uncomplimentary reactions (as you may interpret them) that have come to me first hand from senior high-school officials. The last reaction came but a few days ago as I was casually discussing with a friend the issuing of certificates of credit. This principal of a large city school remarked, "These junior high schools are nothing more or less than a nuisance."

In many instances, perhaps, the junior high-school organization is regarded askance by senior high-school officials because they believe that secondary education thereby loses dignity. They feel that the importance of senior high-school work is not comparable to that of this new organization which is attempting to appropriate senior high-school tradition and reputation.

It would be unwise for one architect to plan the first story of a house; for another, without knowing the first, to work out his plan of the second story; and for a third, not knowing the work of his two predecessors, to plan the third story. Even the house that Jack built would undoubtedly be superior. No part of a whole is sufficient unto itself. The junior high school is the middle story of our public educational structure. It must be correlated below and above to be truly efficient, and much more work must be done in this field of correlation before we can boast of a unified educational system. This must be a give-and-take proposition. The junior high school must develop gradually. Interscholastic relations must never be allowed to become strained,

else cooperation and correlation will be curtailed. For the sake of such cooperation and friendliness, it is unwise for junior and senior high schools, especially in the same city, to foster athletic relations or any interscholastic contacts or contests which might occasion recognition of superiority to be given to the junior school. It is unwholesome for both.

The apparent gap between the eighth grade and the traditional four-year high school has been bridged. Perhaps the junior high-school organization has helped, but perchance the demands of our changing industrial and social development have had their influence. It is enough to say that the junior high-school cannot justify its organization on that score. It must remember that for the first time in educational progress, general educational practice has provided for the psychological development of adolescence. The junior high school is justified because it has been dedicated to the *child*, rather than to method and subject-matter.

Naturally we judge the junior high school by the measuring stick of our conception of education. Dr. Payson Smith said "Education is that which is left after you have forgotten all that you have learned." Dr. Cubberley said "Education must train the youth for useful and efficient action. The educational problem which must be given more and more consideration is the relation of the school to the world." The junior high-school idea is psychologically sound. With wise direction, conservative progress, and careful correlation, it is destined to continue to be a vital force in the scientific development of our youth.

KINDERGARTEN AND PRIMARY TEACHERS

BLODWEN DAVIES, *Kindergarten Teacher, Columbus,* Presiding

THE PLACE OF THE KINDERGARTEN IN THE ELEMENTARY SCHOOL

ALICE TEMPLE
University of Chicago

The kindergarten is not yet an integral part of public elementary education.—It made its first appearance in a *public* school system of the United States more than fifty years ago, in the city of St. Louis. Since that time it has been adopted by one school system after another until now it is included in practically all large city systems and in many of the smaller ones. Although it has thus become a part of the public school it is not yet a well established and integral part of public elementary education. Among the many evidences of this are the following:

1. When school funds are low, the kindergarten is quite liable to be dropped along with the other so-called *special* departments. This happened recently in a small city near Chicago.

2. In school systems which support kindergartens it sometimes happens that the course of study does not include the kindergarten. When it is included, the curriculum material is often presented apart from that of the other grades. In her recent book *The Primary School*, Annie E. Moore reports an examination of 81 city courses of study published between 1908-18. Of these, 60 percent do not mention the kindergarten, 25 percent refer to it incidentally, while only 15 percent include the subject-matter and activities of the kindergarten as an integral part of the elementary-school curriculum. This tells the story of the years before 1918. Recent courses of study, fortunately, tell a somewhat more encouraging story.

3. Only rarely do books on elementary-school curriculum and books on method discuss the kindergarten. Among the former, Dr. Bonser's *Elementary-School Curriculum* is an outstanding example. As to books on method, the late Professor S. C. Parker's *General Methods of Teaching in Elementary Schools*

is conspicuous among books of this type in its frequent use of examples of methods and method principles drawn from the kindergarten. Most authors of books dealing with general methods of teaching ignore the kindergarten entirely.

One could give a number of other evidences of the fact that the kindergarten is not yet universally recognized as an indispensable part of public education, but enough has been said to make clear the point.

The kindergarten primary unit.—What may be done by those of us who are in the field of kindergarten-primary education to convince school administrators and tax payers that the kindergarten has an indispensable functional value in relation to the elementary school and particularly to the primary grades of that school? In the time at my disposal I shall discuss that which I believe will contribute more to the accomplishment of this end than any other one thing—namely, a selection and organization of curriculum content in terms of the kindergarten-primary unit. This has been done in a few places; it needs to be done in every school system which maintains kindergartens.

If the phrase "kindergarten-primary unit" means anything, it means continuity of experience for the children during the early school years. It means a selection and organization of subject-matter and activities not only in terms of the ultimate educational objectives to which they contribute, but in terms of the present needs of the children as determined in part by their experiences of last year and in part by plans for next year. For the kindergarten teacher this would call for a careful survey of the experiences, knowledge, and abilities, which the children had acquired at home (certainly until such time as nursery schools become common), and a looking forward to the knowledge and abilities which they will need if the first-grade work is to count for the most. Similarly the curriculum materials and activities of the first grade should be selected and organized with reference to the kindergarten curriculum on the one hand and the second-grade curriculum on the other. All this is so obvious that one hesitates even to mention it, and yet, as indicated earlier, it is only recently that a few schools have sufficiently taken into

account the children's pre-school experiences and have consciously worked to secure continuity in curriculum activities between the kindergarten and the first grade.

Continuity in school subjects.—I should like to illustrate this principle of continuity through two school subjects; one, a content subject which I shall call home and community life, and the other, a tool subject, namely reading.

Home and community life in the kindergarten and primary grades corresponds to what are designated as "social studies" in later school years, such studies as history, civics, geography, and economics. In some lower grades this subject has no place. In others some attention is given to it in connection with state and national holidays. In still others, and these are numerous, the content concerning home and community life, or social studies, is related to the individual and small group projects in construction and dramatic play which the children initiate in the work period and discuss during the conference period. This type of experience is good and valuable as far as it goes, but if this is all that is offered to kindergarten-primary children I believe they are missing something very worth while. A liberal education has been defined as that which gives *sympathetic insight* into contemporary life and civilization. That children of pre-kindergarten age are interested in their social environment is manifested constantly in their imitative and dramatic play. In fact the latter seems to be an unconscious effort on the part of children to understand the various forms of life and activity about them. It seems important, therefore, for the kindergarten and early grades to utilize this instinctive interest of young children by planning definitely for the extension and enrichment of social experience and for the classification and organization of ideas related to it. This can best be done through the study of home and community life.

Some of the work in community life of the elementary school of the University of Chicago this year emphasizes the continuity of experience in this subject. Let us begin with the kindergarten. During the autumn the children become interested in housekeeping plays suggested by a screen playhouse and some dolls

and toy furniture which the house contained. This interest took the form of cooking and serving plays and the making of block furniture, clay utensils and dishes, paper towels and napkins, and numerous other things needed to carry on the domestic activities. A trip to the grocery store to buy something for a real tea-party resulted eventually in the building, equipping, and stocking of a grocery store in the classroom. Thus for several weeks the work and play centered about domestic and industrial activities, which had to do with the supply of food for the family. This culminated in the Thanksgiving festival when the children prepared and served a simple luncheon for their mothers. During the three weeks preceding Christmas, interest centered about the toy shop and preparations for the Christmas festival.

Early in the winter, as the outgrowth of these autumn experiences, the children conceived the idea of building a city. They discussed some of the buildings which they would need in this play city, and finally the teacher suggested that they make pictures of the different things that would be needed. The pictures made by drawing and paper cutting were finally assembled in a long poster. It included houses, various stores, a church, a garage, and so on, and below these a sidewalk and street containing people and vehicles. This poster was placed on the wall above the blackboard. Plans were then discussed for constructing the various buildings—committees were appointed, and the work went forward. If you should visit the room now you would see a house, a church, a grocery, a dry-goods store, a ten-cent store, and a drug-store with a doctor's office next door to it. These buildings are all large enough for the children to play in and have been furnished and equipped with the essentials as the children see them. The making and furnishing of these buildings has been a central interest for three months. It has involved much discussion, several excursions to get first-hand and vivid impressions; careful planning, experimenting, and problem solving; much drawing and constructing and many forms of dramatic play. It has furnished occasion for printing signs and labels and for making notes and small compositions. The drug-store, for example, carried magazines, and the children made these, pasting

in or drawing the pictures and dictating a little reading matter to accompany them. Through these varied experiences the children have acquired a fund of new ideas and have classified and organized many ideas which were somewhat hazy and vague. All of these experiences have helped them to understand their own home and neighborhood life and many of the social relationships which are involved in it.

Now what community-life activities in the first grade are the natural outgrowth of these kindergarten interests? During the autumn season, as with the kindergarten children, their work and play centered largely about activities related to food, but here farm life furnished the background. The children became greatly interested in the various farm products, milk, eggs, vegetables, fruits, and grains; in the harvesting of some of these; in such processes as butter-making, milling, and baking. They made a typical farm in miniature, using a variety of materials for the purpose. The final product included the various farm buildings, shelters and enclosures for the animals, vegetable gardens, orchards, and grain fields. These children entertained their mothers at Thanksgiving, preparing a luncheon which consisted of one fruit (apple sauce), one vegetable (cooked carrots), and cornbread (to represent the grain). They made some of the butter which they used, converting mason jars into small churns for the purpose.

The various interests aroused through these activities found expression later in the year through working out the problem of getting the farm products to the consumer in the city. The particular problem that interested this group of children was, How do the fruits and vegetables from across the lake in Michigan get to the grocery stores on Fifty-fifth Street, Chicago, where we buy them? It took a number of weeks to secure a thoroughly satisfactory answer to this question, during which time the children acquired much information which they utilized in developing another project in construction. The latter included the representation, on one side of the room, of a farm near the shore of Lake Michigan. Opposite it appeared the city of Chicago with its docks, warehouses, sky-scrapers, dwellings, retail grocery stores, delivery wagons, and so on. Between them was Lake

Michigan with numerous boats and lighthouses, and a railroad running around part of it. The various modes of transportation were particularly interesting to these first-graders, including, as they did, tugs, freight boats, and passenger boats with the necessary piers and docks, and the farm wagons, trains, trucks, and delivery wagons needed for transportation on land. A trip to the river and docks where they saw a freight boat and warehouse yielded a wealth of experience. While the enterprise was under way, charts with the following headings were seen on the walls of the classroom:

Things we need on the farm
Things we need on the lake
Things we need in the city

Under each title was a list of items. Another chart composed by the children was entitled "The Train Journey," and read as follows:

The train goes fast
And gets there at last.
The train carries freight
For people who wait.
The truck takes it then
At half-past ten
And carries it to the market.
The people there
Handle with care
Till others come to buy.

If we turn now to the subject of reading, regarded by many as the most important of first-grade subjects, we may see in another way the importance of careful provision for continuity of experience for children in the kindergarten and first grade, as far as this subject is concerned. The layman does not ordinarily think of the kindergarten as having anything to do with reading. Recent scientific studies and investigations, however, have demonstrated the fact that the modernized kindergarten applies certain experiences and abilities which are prerequisite to the effective teaching of reading to beginners. Professor W. S. Gray, who has probably devoted more time and study to problems related to the teaching of reading than has any other one person, lists a number of such prerequisites, among which are the following:

1. A rich background of experience resulting in a fund of clear ideas which will give meaning to the material to be read later on.
2. Some flexibility in the use of ideas.
3. An adequate oral vocabulary.
4. Facility in oral expression.
5. Correct pronunciation and clear enunciation.
6. An understanding of the sentence.
7. Familiarity with and interest in books.
8. A desire to read.

How does the kindergarten provide these prerequisites? Very largely, I should say, through the social studies with their related activities, which have been described. These serve to enlarge and enrich the experiences of the children through excursions, pictures, imitative play, construction, oral discussion, and to give them relatively clear ideas concerning a variety of objects and activities about which they will read in the primary grades.

Through the necessary problem-solving discussions and independent thinking and planning stimulated by the projects in construction and composition, the children gain considerable flexibility in the use of ideas. Oral vocabulary and facility in oral expression develop rapidly through new experiences, through full opportunity to discuss these with each other and the teacher, and through contributing to group letters, records, and stories, which the teacher writes for them. Through similar experiences and the example set by the teacher, they learn to pronounce words clearly and correctly and they grasp what a sentence is. Interest in books is developed through free access to carefully selected picture and story books from which stories are read or told to them, and through making little books of which the illustrations and reading matter are their own composition. All these experiences tend to stimulate children to read for themselves. If this stage is reached while they are still in the kindergarten room, the kindergarten teacher may include in her schedule a few minutes for informal reading of material composed by the children with the help of the teacher and printed for them on charts. If not, such informal reading should be deferred until the children are ready and eager to read, the kindergartner

contenting herself with activities such as we have designated for prerequisites to reading.

Conclusion.—I have tried to illustrate, through two curriculum subjects, namely social studies and reading, what the kindergarten may do for the five-year-old child which not only satisfies the demands of his present stage, but which prepares very directly and specifically for the work of the first grade. If time allowed, equally good illustrations could be given through other subjects of the curriculum, such as nature study, literature, plays and games, music, health education, character training, and arithmetic. It is entirely possible and desirable to discover and formulate the beginnings of every elementary-school subject and activity in the kindergarten. To the extent that curriculum-makers follow the example of the few who have already done this, will the kindergarten become a well-established and integral part of elementary education and be generally recognized as such a part.

HOPEFUL ASPECTS OF THE READING SITUATION

Frances Jenkins
University of Cincinnati

The many activities in which children engage have reading aspects which the teacher should endeavor to utilize. The average citizen makes many uses of reading as he goes about his ordinary life. Since teachers are taking advantage of these possibilities, reading is becoming more meaningful to the children. This influences their attitude toward reading, since they see its constant use.

Interesting books are being supplied as never before, an abundance of material replacing formal drills. Fresh material stimulates the child's interest so that he feels that reading is well worth while. The library table has become an established part of schoolroom furniture from the kindergarten through the grades. This brings children into frequent contact with books. Publishers

announce a marked increase during recent years in sales of children's books, proving that the home as well as the school is alive to this problem.

A much more simple and direct attack upon reading problems is characteristic of the methods of today. Much that is cumbersome has gone. This means that the teacher is freed from much time-wasting procedure, and her method becomes more her own than a type of dictation from authority. Where a scientific basis can be established, this is done.

The time has passed for tradition to control anything so vital as early work in reading. Controlled scientific experiments are being carried on in several fields, notably in relation to the value of phonetic training and of flash card drill. The direct association of the word with the idea is noticeable in the work of several experimenters, among them Gates, Zirbes, and N. B. Smith. There seems to be a possibility of evolving a truly scientific procedure which will save much in time and energy.

The use of informal and standard tests in reading calls those children who are having specific difficulties to the attention of the teacher. Great effort is made to diagnose these difficulties and to discover procedures which will overcome them. The earlier these problems can be discovered, the better; this should probably be done in most cases in the latter half of the first grade. With this careful attention, it seems safe to say that the child of normal mentality should learn to read in the first grade and should never become a problem case in reading.

LATIN

M. B. Ogle, *Ohio State University,* Presiding

JEWELS SET OR UNSET

Joanna Baker
Lake Erie College

Literary works, the substance of the Greek and Roman classics, may be compared to the works of art in general. The writer of this paper, for a certain purpose, compares them to the work of the lapidary. As a jewel must have an appropriate setting that it may be seen to advantage, so there may be said to be a setting for a piece of literature. The setting consists of the incidental material which the writer uses in building his work. Such incidental material consists, in the first place, of that which may be said to give local color to the piece, such as the facts of history and geography. This material requires information which the college freshman ordinarily does not possess, because of the lack of a very definite knowledge of Greek and Roman history. This paper raises the question as to how to remedy this common deficiency. Shall it be by a special course in ancient history, required of students of Latin and Greek?

Other incidental material consists of the facts of ancient private and public life, the classic mythology and legend, Roman and Greek philosophy, and even of their archeology. The teacher must insist on a definite if not a wide knowledge of such incidental matters, a knowledge which can be acquired without extensive search but which requires a definite purpose on the part of teacher and student.

Finally, to stimulate the imagination of the student, the teacher is urged to make an exhibit, as it were, of the *jewel*, by an occasional interpretive reading with comment before the class, of such selections as may best serve his purpose. Prof. MacKail's "Lesson in Horace"[1] is cited in illustration. A special plea is made for the teacher to use much oral reading in general to achieve the results just spoken of, as well as on the occasion of a special

[1] *Classical Review*, March, 1921.

interpretive reading. This, of course, will be in addition to a careful and sympathetic version. The student may be brought to appreciate what Prof. MacKail calls the "vital equality" of what he reads, by his own frequent oral reading of the text.

As a final suggestion, the speaker asks the Latin section to consider the subject of examinations in college work. Are they sufficiently general in scope to stimulate the student to acquire the knowledge of the collateral material which has been discussed? In other words, may not our examinations, as well as our classroom activities, do more to give a setting to the jewel?

THE FOUR-YEAR COURSE IN LATIN AND THE TEACHER

George C. Fiske
University of Wisconsin

In the mystic union of the letter and the spirit lies perfection. Perfection is the goal, never attained, yet always to be sought by the exact discipline and generous enthusiasm which must inspire the soul and stiffen the well-knit frame of any real Latin course. Latin studies whether pursued for two, four, six, or eight years, in high school and university alike, will most surely and swiftly press forward upon that course, which by an apt Latin loan word we call the *curriculum*, if teachers and students see clearly that the Latin language and literature are in themselves worthy of study, irrespective of their important utilitarian by-products. The Latin literature, ancient and medieval, was, for the thirteen centuries from Ennius to Dante and beyond, the essential literature of the civilization of western Europe. From this literature our own English literature receives a noble legacy. The Latin language was the precise, yet supple, medium in which this civilization handed on its learning, expounded its philosophy, poured forth its joys and sorrows. The formative influence of this continuously civilized speech upon our English tongue is universally recognized. French, Spanish, Italian, and the other Romance languages are modern Latin transformed under varying racial environments.

As a text for the spirit of this brief *sermo* or discourse, let me take a paragraph from Schopenhauer's well-known Essay, "On the Study of Latin."[1]

> To be entirely ignorant of the Latin language is like being in a fine country on a misty day. The horizon is extremely limited. Nothing can be seen clearly except that which is quite close; a few steps beyond, everything is buried in obscurity. But the Latinist has a wide view embracing modern times, the Middle Ages, and Antiquity, and his mental vision is further enlarged, if he studies Greek, or even Sanscrit.

Let me interject here my conviction that though the Hellenist may conceivably do without Latin, no true Latinist can really do without Greek.

As a text for the letter of my discourse let me select a few sentences from the address of Dean Roscoe Pound of the Harvard Law School in the volume on the *Value of the Classics*, published by the Princeton University Press, 1917, p. 48:

> It is a bit humiliating to those who had thought the law a learned profession to hear a lawyer of high standing at the bar say before the highest court of the land: "Your honors, this is a proceeding *in rem* and the *rem* is before the court." . . . One whose training has been so defective as to allow him to overlook the difference between a nominative and an accusative is not unlikely to overlook other matters which do not lie on the surface of things—and it is the business of the lawyer not to overlook anything that may bear upon the affair in hand. . . . There is no better way for the student to train himself in the choice of the very word that will fit his thought than by translating from Latin and Greek. Thus he develops habits of analysis, habits of discriminating choice of words, habits of the accurate apprehension of the meaning which another has sought to convey by written words which lead to power of expression and to power of clear thinking. Such habits are worth more to the lawyer than all the information which a modern school may hope to impart.

My first thesis, then, is that there must be a harmony between the body or letter, and the animating spirit of the Latin course. But we live in an imperfect world. In the realm of language and literature the letter sins against the spirit, and the spirit against the letter quite as surely as, in the realm of morals the flesh sins against the spirit, and the spirit against the flesh. Doubtless some teachers of Latin in this room are sworn adherents to the tenets of a contemporary educator who considers grammar a relic of the dark ages. Such teachers will regard the boast of educators of the middle decades of the nineteenth century that

[1]Translated by T. Baily Saunders. London, William Swan, Sonnenschein & Company, 1891. p. 45.

if every copy of the Andrews and Stoddard's *Latin Grammar* were destroyed, the boys of the Boston Latin School could reproduce it from memory, as the sin against that Holy Spirit which should animate literary culture. I agree that the delicate balance between spirit and letter was then perhaps too far from the centre of its swing. Yet let me point out that the students of that day were intellectually a strenuous lot, who, after four more years of college Greek and Latin, frequently in later life read their classics for pleasure.

On the other hand, should we not today frankly question whether the spirit may not sin against the letter? As my friend, Professor Laird, of the Department of Greek, says: "I should like to read a paper before an educational meeting on the text: The spirit killeth, but the letter giveth life."

In 1908, Professor Charles E. Bennett delivered a president's address to the American Philological Association upon, "An Ancient Schoolmaster's Message to Present-Day Teachers." That ancient schoolmaster was Quintilian. Professor Bennett there says:

> As year after year I meet a considerable body of freshmen, incapable of pronouncing Latin accurately, only half sure of their inflections, and equipped with but the scantiest syntactical knowledge, incapable of giving or even appreciating a really accurate translation—as I meet this annual contingent, it is with more than passing regret. These students are as a rule not lacking in ability or industry. They are simply the living illustrations of bad teaching.

Let me hasten to add that Professor Bennett was no pessimist, but that he believed in combining words of grave admonition with encouragement and practical suggestion.

What is our situation today? In the first place classical studies appear to be emerging from the lean years surrounding the war. In the second place, whereas eight or ten years ago we were confronted by the danger of too few high-school students of Latin, we are now, in some instances at least, confronted by the dangers pursuant upon the discovery of Latin by a great mass of students, and certainly by the presence of many imperfectly trained teachers in the subject. In the third place, the steady advance of the junior high school will enormously improve the situation for Latin if we, the consuls, do our duty. Let me

frankly say that the greatest danger I fear, and I find by inquiry that I am not alone, is the dilution of our product, an inferior training of those who graduate in our high schools, arising from a false conception of what democracy in education means. If democracy and excellence cannot be made compatible,—and by excellence I mean tested attainment, and not potential capacity—one or the other is doomed. As one who believes heart and soul in the American experiment in democracy let me voice my belief in the pregnant utterance of Quintilian X, 3, 4: "Nihil enim natura voluit magnum effici cito praeposuitque pulcherrimo cuique operi difficultatem."[1] Today, however, we find ourselves in the age of jazz, of education through play and outside activities. As the representative of one of the well-known educational publishing houses said to me: "There is a tendency to jazz Latin, and the subject does not lend itself to jazz." I question in all friendliness whether certain methods which may be desirable in the Latin Club or in a Latin exhibit should usurp the all too scanty time of classroom instruction or study hour. Is it necessary to use so much paper and paste in order to save Latin studies? Must a little girl in the junior high school in order to remember *amamus* see a cut-out of a child kissing papa? Must a boy see an assemblage of domestic animals carrying shields emblazoned with the derivatives of *facio?* When President Eliot of Harvard University was ill with appendicitis in the Far East, he finally replied to the anxious cablegrams of family and friends, "Assume condition." Is it not time for us teachers of Latin to assume condition and turn to the actual teaching of our subject with renewed energy? I know by first-hand testimony that some high-school students would rather spend their time on the Latin language and literature than on the scrapbook, and that such is the desire of their parents.

Again, I know by personal experience that the four-year Latin course has been overcrowded, and for many pupils the approach to Caesar, too hurried. I agree that more simple and interesting reading material may precede the reading of Caesar.

[1]Nature will have nothing accomplished quickly, and so she has placed difficulty in the way of every noble achievement.

On the other hand, I am not convinced that in a five-year reading course, pupils will be better prepared to read Cicero by postponing all reading of Caesar to the fourth semester and by reading Caesar for but a single semester. Nor am I personally convinced that to spread the old four-year course thin, or in a diluted form, over five years will mean a real gain for Latin studies. I speak as one who for four years taught students of Latin and Greek in preparatory schools, and for five years has taught college courses in beginning Latin and Caesar.

The present age, moreover, stresses immediate and utilitarian objectives rather than ultimate goals. I recognize with gratitude the many valuable and practical suggestions in the Classical Investigation. Let me frankly say, however, that I view with some disquiet what seems to me a tendency to multiply objectives unduly. A knowledge of the Latin language and a love of the Latin literature must always be the *raison d'être* for the study of Latin, whether in a high school or university. Historical background, English derivatives, and other ancillary disciplines are important by-products of a Latin course. They have probably been unduly minimized in the past. Yet after all, I have too high an opinion of our mistress *Latinitas* to make her in her own house the servant maid of even *Anglicitas* (Good English) or *Historia* (History). To do so is to substitute Latin in chains for the liberal study of the Latin language and literature for their own sake. Yet so intimate is the relation between the three disciplines of English, Latin, and history, that our mistress, *Latinitas*, can play the *ancilla* to some of their needs. In her own house, then, *Latinitas* must be mistress.

The goal, therefore, of our four-year Latin course is the ability to read simple Latin with accuracy and reasonable facility, and to gain some elementary appreciation of Latin literature. What authors will the thoughtful Latin teacher prefer for the last three years of the high-school curriculum? We Latinists at the University of Wisconsin still believe that Caesar, Cicero, and Virgil should be selected. I am willing to concede the need of a considerable amount of simplified Latin for the first year, and for a thorough review during the first month or two of the second year.

On the other hand, to back Caesar and Cicero into a tight corner by substituting books of selections for the two central years of the traditional high-school course, will, I fear, prove an abortive attempt to drown out the voices of three masters, who for centuries have spoken across the abyss of the ages to youthful students. Shall the somewhat strident and well-promoted productions of modern theorists within and without the Latin field be substituted for those *studia, (quae) adulescentiam alunt, senectutem oblectant, secundas res ornant, adversis perfugium ac solacium praebent, delectant domi, non impediunt foris, pernoctant nobiscum, peregrinantur, rusticantur.* These words stand over the entrance to the Boston Latin School which was founded in 1635, a year before Harvard College. They are now as then the very palladium of our Latin freedom. As a colleague in the department of English said to me, the Latin course in the high school has one advantage over every other course, in that it brings the high-school student into contact with three great minds. Surely not even Latin made in America may be largely substituted for this great trinity of the statesman, the orator and humanist, and the poet, without danger of dimming the impression made by these masterpieces and liquifying the upstanding rigor of our discipline. How can we hope permanently to save Virgil in the fourth year for pupils who have nibbled at short orders for three years?

To me, therefore, it is clear that all through the Latin course the letter and spirit of learning must dwell together in legitimate union. And in legitimate union means in that continual give-and-take which conforms a busy and a happy life. In no spirit of dogmatism let me suggest that the letter fertilizes the soil in which the fruits of the spirit are to bloom, that *cultura* is an agricultural metaphor, and that we cannot have the fruit without the tillage. To me it seems that the tillage should predominate in the first two years if the teacher would reap the sound and perfect fruit at the end. At least Quintilian felt that in the teaching of Roman boys, surely an easier task than to teach the *peregrini Americani.* His motto is first flawless accuracy; then flawless speed.

Our central problem in the first year of Latin study is, to my mind, the complete, that is, the automatic mastery of the forms of the language. This is in the main a matter of brute memory; any weakness here spells defeat later in the course. Naturally any intelligent teacher will work out her own principles of association and antithesis.

Listen to Quintilian in the fourth chapter of the first book:

> Let pupils in the first place learn to decline nouns and conjugate verbs; for otherwise they will never come to an understanding of what is to follow, an admonition which it would be superfluous to give, were it not that most teachers through ostentatious haste, begin where they ought to leave off; and while they wish to show off their pupils in matter of greater display, they retard their progress.

After five years of teaching beginning Latin at the university with five periods of fifty minutes a week each semester, I found that I could afford to put off some of the more complicated problems of syntax until the following semester in Caesar. I could not afford to eliminate constant board and oral drill on forms, or to curtail appreciably that acid test of the true knowledge of the language, Latin composition. By preference I put some of the translation of Latin into English. In other words, if I forced students to master their forms, and apply mastery of forms and the simpler syntactical principles in the Latin composition, and gave them thorough, though somewhat reduced practice in translating Latin, I found that I could instruct them in the more complicated principles of the syntax of moods and tenses, especially the subjunctive constructions, and that I could teach them to translate rather complicated periods in Caesar during the second semester.

The central problems concerning the letter of the Caesar year are: first, a thorough review and steady drill on the paradigms; second, a mastery of the principles of syntax and the automatic application of those principles to the text of Caesar. Proficiency here is impossible without regular exercises throughout the year in Latin composition. This work in composition must be correlated both with the page of Caesar and with the syntactical rules, which must be memorized letter-perfect. In the third place, the pupil must learn how to translate a fairly complicated

Caesarian period into correct and idiomatic English. This aptitude cannot be attained without a continuance of the systematic study of vocabulary, and explicit instruction upon some of the elementary principles of word order, and sentence construction.

May I suggest that it is well to remember that students like order and coherence? This is particularly true of syntax. Hence in both the high school and the university, it has been my habit to put on the board seven or eight grammatical references. About half referred to syntactical principles which needed to be understood, if the text was to be correctly translated, but the other half was consecutively massed over several weeks upon the syntax of a case, or of conditional or temporal clauses until those principles were understood as an articulate whole. Thus all the uses of the dative case, save the dative of purpose, can be shown to be associated with the central concept of personal concern.

But the spirit of Caesar has its claims too. It is a crime to take a class through a year of Caesar without giving them an elementary idea of the simple principles of Caesar's strategy. Here the campaign, not the book, is the unit. T. Rice Holmes's *Caesar's Gallic War* is indispensable. It is equally essential to analyze the meaning of the Gallic war and of Caesar's rise to power, for the history of Western Europe. This is an intricate task. Even so admirable a work as Warde Fowler's *Julius Caesar*[3] may require simplification and abbreviation. Valuable supplementary material may be found in the lives of Cicero, Cato the Younger, Pompey, Caesar, and the various translations of Plutarch.

Then come the years in Cicero and Virgil. Let me suggest that if one has not sinned against the letter during the first two years the spirit will now have won the right to increasing freedom. Yet even in the Cicero year the letter has its claims.

Let me first consider the claims of the letter. The study of Latin composition based upon the Ciceronian style, thought, and vocabulary, should be continued at least once a week. Permit me to relate the fable of the intelligent freshman and the teacher to whom no adjective will be applied. A member of a certain

[3]Fowler, Warde. *Julius Caesar (Heroes of the Nation)*. Putnam.

freshman class said to her instructor, "Professor, I have had no Latin composition since my freshman year at high school. I thought that I should need to know something about it and so worked on it by myself this summer, but it was difficult." The professor asked, "Why did you have no composition?" She replied, "My teacher did not believe in Latin composition." Now not to believe in Latin composition as a medium of Latin instruction is much the same as not to believe in the multiplication table as an indispensable requirement in mathematics. In the second place, some of the more elementary principles of Latin word order and style may be studied most advantageously in connection with the flowing Ciceronian periods. If the forms have been thoroughly mastered in the second year, far more attention may be paid to the differentiation of Latin synonyms, to the study of the simpler principles of Latin word formation, and to derivation.

I turn now to the spirit of the year in Cicero. In Cicero we have the perfection of a great literary form, the oration. Surely no teacher has done his duty who has not taught his students to analyze the structure of the Ciceronian oration and made them feel, by apt illustration from Cicero's own rhetorical writings and from models of modern classical eloquence, such as the speeches of Burke and Webster, that the structure of a Ciceronian oration and its progeny is based on a clear understanding of the processes of human reason and of human emotion.

Next in importance comes the study of the political and social background of the Ciceronian age. Here Strachan-Davidson's *Life of Cicero*[4] affords an admirable supplement to Warde Fowler's *Life of Caesar*. A good translation of the letters of Cicero, and such a study of the whole career of Cicero as Professor Torsten Petersson's *Cicero; a Biography*,[5] are indispensable, even for a small high-school library. If, as Mackail says in his *Latin Literature*, "Ciceronian prose is practically the prose of the human race," the teacher must show with simple terms and apt illustration the relation between the genius of the man and the rhetorical

[4]Strachan-Davidson, J. L. *Cicero and the Fall of the Roman Republic.* (*Heroes of the Nation.*) Putnam.

[5]Petersson, Torsten. *Cicero; Biography.* University of California Press, 1920. 699 pp.

training of the age in fusing so splendid an instrument of human thought. Here the chapter in Petersson on "Rhetoric," and the notes and introduction in Frank Gardner Moore's recent edition of Cicero may be confidently recommended to all teachers. As Quintilian, a true Ciceronian, said: "Whoever finds great satisfaction in Cicero should know that he has made progress." That this progress of the American high-school student may be civic as well as literary is attested by that charming essay of Martha Baker Dunn, "Cicero in Maine," which appeared in the *Atlantic Monthly* in 1904, pp. 252–60.

The end crowns all, however, and Virgil is the crown of our four-year struggle. Here the discipline of the letter imposes upon student and teacher two relatively simple tasks. First, the simple syntax of poetry and its deviations from the norm of prose must be mastered. It is both criminal and stupid to make Virgil a medium for the study of prose syntax. *Quod praeterit effluxit.* This is not a difficult task, especially if the teacher still continues review composition even though at intervals of two weeks. Thus a norm of comparison between prose and poetic style may be maintained. Second—and here letter and spirit are interfused—we must teach our pupils to scan Virgil with accuracy, correct phrasing, and feeling. A modicum of rules is needed, but the prime essential is constant oral practice both by teacher and by pupil. Virgil's ocean roll of rhythm must sound, not *look*, forever of imperial Rome. His poetry was meant for the *recitatio* not for the closet. Much remains to be done here, if Wisconsin freshmen do not bear false witness.

Only a summer vacation separates the high-school senior from the college freshman. It is the supreme privilege of the teacher to introduce the high-school senior to the literary study of one of the world's great poets. Here spirit must speak to spirit. Students should not be buttoned into literary strait jackets. Let me suggest, however, that the Virgilian studies and courses of Professor Ogle, of Professor Knapp of Columbia, of Professor Rand of Harvard, of Professor Pease of Amherst, and of Professor Prescott of Chicago, are always available to teachers in Latin. They are the true Virgilians in America. May I add, however, that the sixth book of the *Aeneid* should by no means be omitted,

and suggest that a translation of the *Divine Comedy* and the special edition of the sixth book of the *Aeneid* by H. E. Butler will shed constant illumination upon the path of the student of Virgil. Norden's great commentary belongs rather to the college course.

In an essay on "Augustus and the Religion of Reconstruction" I have suggested my own feelings as to the spirit of Virgil's *Aeneid*. May I venture to repeat a few lines?

> By birth, by education, by temperament, Virgil stands out from all other Augustan poets as the predestined laureate of Augustus and his policy. He expresses that policy with unerring tact and felicity, but transcends it, as the work of the great poet must always transcend that of the statesman. In the *Aeneid* Virgil has given us an epic which is at once historical, Augustan, religious, and supremely human. . . . The spirit of Virgil, however, transcends the explicit mission of Roman greatness assigned to him by Augustus. Virgil stands on that great divide of the ages which separates the pagan past from the Christian future, the future which ever fades before us as we move, but towards which we all must move. His poetry is a symbol of the hesitating advance of the human soul into the darkness of the unknown. He moves forward with slow and timid steps, and as he moves, himself ever fronting the darkness, he holds behind him the light which illumines and enlightens those who after him are to follow the same arduous road. For some of us he is, as he was for Dante and Dante's Statius in the *Purgatorio*, XXII, 64, the pathfinder of our common humanity.

In this simple talk I have said little about the preparation of the teacher, yet I trust it is clear that in the teacher, as in the course, letter and spirit must be fused in an ideal union. In so far as the teacher is true to the promptings of both, his letter will indeed multiply and become for his class the *litterae humaniores*. His spirit will in some measure catch fire from that of Virgil.

So to the letter of this talk I will apply three lines from the first Georgic (121–24):

> Pater ipse colendi haud facilem esse viam voluit, primusque per artem movit agros curis acuens mortalia corda, nec torpere gravi passus sua regna veterno.[6]

But if through our own toil and courageous aspiration there are transmitted to our students something of the letter and the spirit of our three great lords, Ceasar, Cicero, Virgil, then our course will be a true hive, then as Virgil says, in the fourth Georgic (205–8), the fortune of our house stands and our work lives after us.

[6]Our lord himself willed the way of tillage to be hard, and long ago set art to stir the fields, sharpening the wits of man with cares, nor suffered his realm to slumber in heavy torpor.

MATHEMATICS

S. E. Rasor, *Ohio State University*, Presiding

RESULTS OF DIFFERENTIATED CURRICULA IN MATHEMATICS

George P. Kerr
Lincoln High School, Cleveland

Regardless of the fact that pupils are unlike in their aptitudes and abilities, not until comparatively recent times have school men recognized the fact enough to plan curricula that would meet the needs of all the children of all the people. One of the most potent factors in the awakening of school administrators in this respect has been the cost of re-instructing the failures. To meet the demand for fewer failures, pupils are now being classified into quasi-homogeneous groups, and curricula are being planned to meet the needs of these different groups.

At Lincoln High School, Cleveland, pupils of the seventh and eighth grades have been classified into eleven groups and pupils of the ninth and tenth grades into three groups. The needs of these groups are met by providing problem material suitable for each group and by making necessary adjustments in the curriculum. Parallel courses are provided for the ninth and tenth grades. The "X" and "Y" groups take the traditional algebra and geometry and the "Z" groups take what is called industrial mathematics. In the IX-B industrial mathematics, the problem material gives constant practice in the four fundamental operations with integral and fractional numbers. Literal numbers are gradually introduced with much drill. All algebraic work in this semester is limited to positive numbers. In the IX-A semester, the material is for the most part algebraic, but the problem material is much simpler than is usual in the regular algebra classes. The tenth-year industrial mathematics is mainly of a geometric nature. No attempt is made, however, to have the pupils prove theorems in the traditional way. Much time

is given to constructions, original exercises, and the applications of theorems in numerical exercises.

Pupils are reclassified at the beginning of each semester and, if need be, during the semester. For example, a pupil in the regular classes who finds the work too difficult is transferred to an industrial class, whenever it is for his best interest that such transfer be made. The results of classifying our pupils into these various groups and of providing differentiated curricula to meet their needs have been exceedingly gratifying to all concerned. The results are five: (1) We believe we have raised the standard of work done, because almost all the pupils are doing better work than they did before. (2) The weaker pupils are happier, interested in their work, and no longer discouraged, because the material offered is work which they can do. (3) The stronger pupils are happier for the work challenges their powers, and they are no longer retarded by pupils who require undue attention from the teacher. (4) The teachers are happier for most of them have both groups and they no longer feel that all their pupils must cover the same ground in a limited time or else a large percent of the class must fail. (5) The number of failures has been materially reduced as is indicated by the following figures:

Class	Percent of Failures before Classification	Percent of Failures Last Semester
IX-B	16.5	5.9
IX-A	14.2	9.6
X-B	16.9	2.5
X-A	11.7	10.

We do not claim that either our classification or our curricula are ideal. We believe, however, that we have made a move in the right direction, and we hope in the future to make further progress as we continue to study the problem which confronts not only us but all school systems wherever located.

A TENTATIVE STUDY IN THE TECHNIQUE OF TEACHING GEOMETRY

V. M. Smith
Central High School, Columbus

About six weeks ago, Professor Rasor asked me to explain to you our plan of teaching plane geometry. The plan has a twofold purpose: first, we anticipate some better and more closely related results in the same school unit, and second, we hope that our idea will bring about, through a system of points, greater individual responsibility on the part of the pupils, and lead to a better individual method of teaching. I have called this a tentative study because we have used this outline only the last and present semesters, and therefore, we are not sure of any particular results. From the past semester, we do anticipate that we may secure more easily tabulated and more closely correlated results in our own school unit.

This twofold purpose could be best attained, we thought, by dividing our course into units or goals in psychological order. These units were arranged to follow the textbook, Wells and Hart, which gives the teachers a better time basis on which to work. The goals were arranged to improve the convenience of teaching the material so that the steps would be progressively difficult and correctly add to and review the knowledge acquired in general mathematics.

Our first goal in plane geometry covers a period of two weeks, in which we lead the students slowly and carefully to a knowledge of certain definite facts for use in formal demonstrative geometry. With this preliminary work, we aim to create an interest in this new phase of the old subject. In this first goal which takes us to Book One, we review the use of our three tools, learn through simple constructions and definitions, the new terms to be used, and prove one proposition by formal demonstration.

At the close of this period, we give an achievement test of four parts: (1) false and true test, (2) computation and construction test, (3) trial theorem, (4) completion test. The test was organized in this manner for three reasons: (1) We could cover

the work done more satisfactorily; (2) It gave each pupil a better chance since it offered four means of reasoning and answering; (3) It made easier and more accurate grading. Some examples from each part of the test are:

(a) Of two angles the one having the longer sides is the larger. (b) Two straight lines can intersect at only one point. (c) A circle is a closed curved line. (d) Draw a triangle ABC in which AB and BC are each three inches long. Make the angle B 40 degrees. Measure each of the other angles. Make E the midpoint of BC and F the midpoint of AB. Draw AE and CF. Measure them. What facts do you find to be true? (e) What is the complement of 45 degrees and 30 minutes? What is the supplement of 56 degrees and 30 minutes? (f) Prove, If two straight lines intersect, the vertical angles thus formed are equal. (g) The distance from a point to a line is the length of the——line. (h) Two angles are——if their sum is a right angle.

In using this test the present semester, we find a very close correlation between our five classes which are taught by four different teachers.

Our second goal covers the six fundamental construction problems, the usual propositions of the congruency of triangles and of parallel lines. The third goal completes the first book, covering quadrilaterals and certain propositions of inequalities. The fourth and last goal for the first semester covers a period of five weeks and is made up of the usual propositions regarding circles and the measurement of angles in circles.

The work of the second semester is divided into five goals: the first, from two to three weeks, is a review (particularly in the fall semester), with some advanced work on loci; the second, of four weeks, is a study of ratio, proportion, and the six ways to make triangles similar; the third, of four weeks, is the finding of the length of lines in similar triangles, particularly the right triangle, and includes a review of the sine, cosine, and tangent of the acute angle; the fourth, of six weeks, covers the fourth book on the areas of polygons; and the fifth, of three weeks, covers the fifth book on regular polygons. Each unit is a job in itself and is concluded with an achievement test constructed similarly to the one described.

This plan keeps the classes more closely together so that teachers and pupils are talking about the same things at the same time. This passing of ideas between classes is good because

it tends to keep the emphasis on the same things in the same school unit. The achievement tests show us how well we have taught. We anticipate the time when we may know best how to subdivide our goals into smaller working units, each becoming an individual job for each member of the class. We believe such a system would put greater responsibility where it belongs, take care of individual differences to marked degree, and eliminate waste of time which now naturally comes in the ordinary plans of teaching plane geometry.

Our real work in this direction is very hazy. One trial with one of the goals of X-A geometry has been made with one class and 75 percent of the class responded favorably. For this trial we chose the fourth goal which is a study of finding the areas of polygons and covers a period of approximately six weeks. The original goal was divided into six smaller units. After an explanation of necessary terms, the work for the first week consisted of the first three propositions with their corollaries and examples, with an outside example which seemed to show best to the student that he understood the practical application of the proposition. For this work an E grade was given; a G grade was given for the same work with the exception of the outside example; F was given if only the propositions were satisfactorily completed; and a grade of P was given if the student indicated that he did not know the propositions. At the end of the week a carefully planned achievement test and a review of the work done for the week were given. During the week the teacher worked with individuals clearing up difficulties or starting them on the road to a logical proof of the problems. I do not feel that the plan was correctly worked out, but when we reach the same goal this semester, I expect to try again in a slightly different manner because I believe the method will eliminate some of the present difficulties in the technique of teaching plane geometry.

REVISION OF COLLEGE PREPARATORY MATHEMATICS

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Prior to 1900, entrance requirements of different colleges were not uniform; therefore, secondary schools could not plan their college entrance work effectively. Recently several attempts at better articulation have been made. These efforts are interestingly presented by Dr. David Eugene Smith in the *First Yearbook of the National Council of Teachers of Mathematics.*

One problem of uniformity results from the fact that most entrants offer only two or two and a half units, of which less than half is algebra, and skill in algebra is more useful than demonstrative geometry in college mathematics. A second problem arises from the fact that the entrant has lost much of his skill during the three years of the senior high school when it was little used. A partial solution to these problems is that secondary pupils have more algebra later in the course. This is possible if the recommendations of the National Committee and the College Entrance Board are followed. The plan suggests a one-year course in plane and solid geometry to replace the required unit of plane geometry, and leave an extra half-year for more algebra. The intuitive geometry now included in the reorganized mathematics for grades VII, VIII, and IX should be a sufficient substitute for the extra half-year in demonstrative geometry. (An outline showing the scope of this intuitive geometry was distributed at this time.)

It remains for the individual colleges to announce their acceptance of this combination unit, so that senior high schools may feel free to offer it. In the eleventh and twelfth grades, secondary schools should then offer either more algebra, or, preferably as suggested by the National Committee, a unified course including algebra, trigonometry, and some analytics and calculus. Such a course would articulate well with beginning college mathematics.

College instructors, too, should do their share in improving this articulation. They may help in the following ways:

1. Every instructor of freshman classes should be trained in the art of teaching. A knowledge of the subject alone is insufficient.
2. He should realize that a favorable mind-set facilitates learning. Trying to make a pupil feel the subject is unnecessarily "hard" interferes with learning.
3. Colleges should improve their textbooks, which are mainly encyclopedias of subject-matter. Authors should give some consideration to learning processes.
4. Colleges should encourage entrants to offer besides their course in reorganized junior high-school mathematics, one unit in plane and solid geometry, and at least one unit of a combined course of algebra and trigonometry.
5. Instructors of Freshmen should be familiar with the degree of difficulty of topics in algebra as recommended for high schools by the National Committee on Mathematical Requirements, and they should not discourage pupils who cannot handle the more complicated problems now eliminated from modern texts.
6. Both secondary and college teachers should devote more attention to the appreciation side of the subject, in order that the emotional attitude or mind-set of the pupils should be as favorable as possible.

MODERN LANGUAGE

OLIN H. MOORE, *Ohio State University*, Presiding

THE MODERN-LANGUAGE STUDY AND ITS PROBLEMS

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The Modern-Language Study is the latest, but by no means the last, of the nation-wide studies of school subjects as instruments of instruction. The Report of the Committee on the Reorganization of Secondary-School Mathematics in 1923 came first, next various investigations into the teaching of history and the social studies, then the Classical Investigation, and now, the Modern-Language Study. Others are already provided for or under consideration.

The *raison d'être* of such inquiries is not far to seek. Education is concerned with two fundamental problems—what to know and how to learn. The problems of organization and administration, selection and classification of pupils, methods of teaching, and the testing of results, important though they may be, are after all secondary matters. The reason for studying and improving them is to provide the best conditions for the economical and effective learning of what society at the time regards as necessary or desirable for the educated man. Every student of educational literature knows that while much work has been done to improve conditions under which learning shall take place, the fundamental problems of what to learn and how to learn most economically and effectively have been relatively neglected. What knowledge is of most worth and how to acquire it are old, timeworn questions, raised anew in each decade and generation. They have now, however, a new significance for three important reasons:

1. Attendance in secondary schools and colleges has enormously increased. While the elementary-school enrollment from 1898 to 1918 increased about 40 percent, which was also the increase in the total population of the country, the enrollment

in secondary schools and colleges went up over 300 percent. The widening of the range of individual differences in capacities and needs, and the inevitable lowering of the levels of general ability have brought in their wake problems of adjustment in standards, curricula, and methods, which we have as yet not met. There have been no fundamental changes in our secondary school or college curricula in twenty-five years. In the modern-language field, for example, no systematic attempt has been made to view the problem as a whole since the significant Report of the Committee of Twelve of the Modern-Language Association twenty-eight years ago.

2. The multiplication of subjects in high-school and college curricula has gone on apace and a keener, more critical sense of relative values and an insistent demand for the rigorous elimination of non-essentials have been developed. The curriculum is so crowded, and the claims for recognition of new fields of knowledge are so urgent that, whether or not we like it, every subject and even every item of instruction will be scrutinized for its social or psychological value.

3. The introduction of quantitative methods in education is profoundly affecting aims, content, and methods in every subject. Since 1905 when Binet built the first scale for measuring intelligence, and since 1910 when Thorndike constructed a scale for measuring handwriting, over three hundred twenty-five intelligence and educational scales and tests have been constructed to measure capacities and achievements more accurately and objectively than we have hitherto done. When it is shown how highly subjective, variable, and inaccurate the ordinary marking system is even under the best of conditions, standard tests and scales become inevitable. Valid and reliable standard tests, while designed to measure the outcomes of instruction must affect content and method, just as the ordinary examinations which they will replace have done. In those fields where the tests have been most highly developed, as in arithmetic and spelling, their effects on curricula and methods are very marked.

These facts are sufficient reasons for the Modern-Language study and others like it. The studies will go on until the whole

gamut has been run. In another generation they will be done again. They do not represent impertinent meddling by men in education or by educational endowments. The obligation to study their subjects as instruments of instruction in schools and colleges rests upon the members of the guild and cannot be relegated to schools of education as a special task. The Modern-Language Study is, and should be, a large, cooperative enterprise involving psychologists, teachers of the modern languages, and educationists. Pupil capacities and methods of learning are problems for the psychologist. Linguistic problems, curriculum content, and methods of teaching are necessarily the concern of language teachers. The measurement of achievement and progress, and matters of organization and administration are tasks of the educationists. If we all live up to our obligations and opportunities we should be able to select and classify our pupils more intelligently, give them an improved curriculum and better instruction, and set norms or standards of accomplishment in fairly objective comparable terms.

The study had two main alternative methods of procedure from which to choose:

1. To analyze the whole problem of modern-language study in its many varied aspects, and to initiate as far as possible research and investigation in all or many of them.

2. To concentrate upon a few problems of special urgency which might be solved within the time limits imposed upon the study, or to the solution of which a definite contribution might be made.

Believing that the greatest value of the study will be, not in the investigations that may be completed in a three-year period, but rather in the long line of investigations and researches that it may inaugurate, the Investigating Committee has inclined to the first alternative in its plans. A fairly comprehensive analysis of modern-language problems has been made and diligent effort expended in finding collaborators for their solution among language teachers, psychologists, and students of education the country over. These efforts have met with considerable success. About two hundred special studies are under way, beside the

major statistical studies and the researches carried on by the Investigating Committee itself. The plan of the Committee to secure the widest possible cooperation from modern-language teachers and students of education and to encourage study and investigation all along the line, seems fundamentally sound, and I am glad they adopted it rather than the much easier task of concentrating their energies and resources on specific subjects. The ultimate good will be far greater.

It is difficult at this time to take inventory and impossible to predict the outcome of investigations just under way. They will all contribute, it is to be hoped, to answer certain fundamental practical questions in which language teachers and students of education are vitally interested. The specific questions are these:

1. Who should and who should not study modern languages?
2. When should the study of modern language begin?
3. How long should the study be continued to be profitable?
4. What should be the specific objectives of the two-year course, since 85 to 90 percent of students who begin a modern language pursue it for two years or less?
5. What should be the content of the curriculum (minimum essentials in vocabulary and grammar, and cultural materials) for the two-year course?
6. What methods are best adapted to realize the specific objectives of the two-year course?
7. What standards of achievement may reasonably be expected at the various levels?

These will be recognized at once as vital issues upon which opinion and conjecture run riot. It would be an easy matter to gather a census of opinion from teachers on each of these problems, but much more is required than that. The only answers to each of the questions that will be accepted are those based on actual experiment and investigation.

1. Who should and who should not study a modern language?—One may answer this question as did the Classical Investigation for Latin, that everyone should study one or more modern languages. They found the situation to be unsatisfactory and proposed two remedies—a revision of the Latin curriculum and a large supply of better-trained teachers. They looked for the source of trouble in the teachers and course of study, when to my way of thinking the trouble is in the pupils who study Latin

and are encouraged to study Latin. The course of study has been standardized on Caesar, Cicero, and Virgil for many generations, and methods have been mulled over for centuries. High-school inspectors report that perhaps the best teaching they find is in Latin. The difficulty as I see it lies in the supposition that what is good education for some people is good for all, and the further supposition that a little of a good thing is better than nothing. The investigation points with pride to the enrollment of a million pupils, as many as in all the other foreign languages put together. Judd caustically remarks, "The thirst of the Latin Committee for numbers seems almost pathetic," and also suggests that "perhaps the goal of the best subjects of the curriculum is not to enroll the largest number of students."

At any rate they do not raise the question, Is it possible to determine prior to the actual study whether a pupil has an aptitude for foreign languages and should be encouraged to take it up, or whether he suffers from disabilities which make it inadvisable for him to undertake it? This, in spite of the fact that prognosis experiments were well under way. Briggs and Kelley, out of seven tests, got a battery of three that gave a correlation with subsequent progress in Latin of 0.47. Allen, out of twenty-one tests, derived a battery of six tests that gave a multiple correlation of 0.59. Clem more recently reports a six-factor combination that gave correlations of 0.66, 0.82, and 0.84 with different groups—certainly an impressive selective efficiency worthy of study. Teachers of language generally are convinced that there is such a thing as linguistic capacity or aptitude for languages, but I confess to a growing scepticism concerning the existence of special aptitudes for languages and mathematics apart from general abstract intelligence and the possibility of isolation. Certainly special abilities and disabilities in these fields are rare occurrences, whatever may be the situation in music and plastic art. Jordan in a study at Wisconsin reports that the predictive value of the Wilkins Prognosis test for success in modern languages is not quite so good as the predictive value of the Terman Group Test. Limp and Hull, also at Wisconsin, report that the Hoke Prognostic Tests of Stenographic Ability give twice as good a prediction of achievement in English and algebra as in shorthand.

Six independent investigations are now under way for the study and four others bear on this problem. Out of them we may hope for some light on a matter of great importance.

2. When should the study of modern languages begin?—Modern-language study now begins in the grades, in any year of the junior high school, in the senior high school, and in any year of college, with the widest diversity of opinion even among language teachers concerning the best time to begin it. The problem is so complicated by varying aims or objectives, growth in intellectual maturity, and relative value of modern languages in comparison with other subjects which they would replace or by which they would be replaced, that a simple, straightforward answer by any sort of experiment can perhaps not be secured. Even if we should administer objective achievement at semester intervals to classes of the same average ability beginning a foreign language in the seventh, ninth, and eleventh grades, or in the first year of college, and given the same course of instruction by the same methods, and if we should find greater achievement and progress as we ascend the age scale, we could not, even after a carefully planned experiment, conclude that this justifies a late beginning. Nor if the younger classes made greater progress, would we be justified in concluding that an early beginning was necessarily indicated. Even if we were not to raise the question of the relative value of modern language in comparison with what it replaces or by what it is replaced, it would still be necessary to test the same pupils after varying intervals of disuse to answer the question of the greater permanence of language abilities developed by an early beginning of the language. This is a fundamental problem which requires a carefully planned experiment covering a longer period of time than the life of the study and it necessitates the cooperation of a considerable group of teachers and high-school principals. It is relatively easy to plan but hard to organize and carry out.

3. How long should the study of a language continue, in order to be profitable and worth while?—Investigation shows that the overwhelming majority of students pursue a modern language for two years or less. Can a two-year course provide a language

achievement which enables a pupil to read, write, speak, or understand the language when spoken, and are the language habits sufficiently established to survive a period of disuse? Should a longer minimum be urged or should a change in aim and method be recommended for a two-year course? There is widespread belief that under present conditions the attempt to realize the four aims results in the attainment of none in any worth-while sense, and that either the minimum course should be lengthened or the aims be limited to attainable ends.

The languages, ancient and modern, would to my mind be in a much better position if administrators and teachers were to say "Unless you can finish the journey you had better not start at all." The doctrine, advocated by the Classical Investigation, that even a one-year course is worth while, I question. If a six-grain dose of medicine has demonstrated therapeutic value there is no guarantee that a one-grain or a two-grain dose will do any good at all. If one starts to learn telegraphy and drops it when the first plateau in the learning curve is reached, as so many are reported to do, it would be difficult to demonstrate that any values, other than some very problematical disciplinary ones, will survive after a short period of disuse.

Much criticism of modern-language instruction is due to the length of course and the imperfect establishment of language habits, but it is due in larger measure perhaps to failure to keep these habits alive by use. The laws of forgetting are inexorable, and under-learned, unexercised language habits quickly fade and decay. A golfer who plays only a half dozen games a year is always a dub. A study of post-scholastic use of the modern languages would be illuminating. Better still would be the actual measurement by tests of language abilities that survive after varying intervals of time and with varying amounts of study. Such an investigation is long and difficult to carry through though perfectly possible. We shall need to do it before we know the minimum length of study.

4. What should be the specific objectives of the two-year course?— The results of administering achievement tests will almost certainly show that the four-fold aim of language study is under

ordinary conditions very imperfectly realized. The question will naturally be raised whether a concentration on reading as the primary aim with consequent changes in curricula and method would not be a great gain. A course with a minimum of oral work, phonetics, and grammar with a maximum of reading might lead to a higher ability to read, leaving the development of the oral and aural skills to the third and fourth years. Tentative results of applying objective tests indicate that grammar is the determining factor in assigning marks, and the inter-relations between measures of reading ability and grammar are so low that grammar is probably emphasized out of all proportion to its significance for reading, whatever may be its importance for speaking and writing. The lack of correlation between the vocabulary of the first year, with the emphasis on oral work and "daily life" material and that of the second year based on literary material, makes the second year almost a new course. In the Los Angeles curriculum for French, the minimum vocabulary is two hundred and fifty words for the first semester and two hundred and fifty additional words for the second semester of the first year. Miss Murray finds in the actual course of study, the vocabulary of the first-year work contains two thousand six hundred words and that of the second year five thousand six hundred words. It is fairly evident that automatic control of five thousand six hundred words for purposes of reading, speaking, and writing, cannot take place under ordinary conditions. No wonder that language abilities quickly fade and decay.

5. What should be the curriculum content of the two-year course? —If the modern-language course is to be as limited in length as it now is, every hour of instruction must count to the utmost. The study just referred to and the lack of correlation between first- and second-year work indicate one source of waste of time and energy. The determination of basic vocabularies is certainly a necessary first step in the improvement of the curriculum. Just as the word counts by Thorndike, Ayres, and Horn, have brought about important changes in the teaching of reading, spelling, and language work in English, so word counts in the modern languages will place the curriculum, as far as word content is concerned, on a sound basis. The study is sponsoring

a word count of one million, two hundred thousand running words in Spanish, a reduction of Kading's word count of ten million running words in German to usable form for teachers, and an extension of the French word count to over a million running words. This work is, I think, highly important.

Similarly, the study sponsors the making of check lists and frequency counts for syntax, idioms, and errors out of which will come much knowledge of what grammar is of most worth. It would be relatively easy to get valuable information by securing a consensus of opinion or by tabulating common essentials in current texts. A more fundamental though much more difficult and laborious method is by actual frequency counts of syntactical and idiom phenomena in standard literature. The Investigating Committee and its collaborators have not shrunk from this task, and an improved grammar curriculum, resting on the soundest basis, will surely result.

An important objective of language instruction is an acquaintance with the history, literature, life, and civilization of the country and people whose language is studied. The search for reading materials that will give the richest cultural content is an important concern. The barrenness of many modern-language courses in this respect is well known.

6. What recommendations on method should be made for the two-year course?—From much of the discussion on method one may get the impression that the alternatives are some form of the direct method or some type of grammar-translation method. The problem of method cannot be fairly stated in this way. The best and most economical method will vary too much with the aims and objectives of studying a language, the age and abilities of pupils, the length of the course, and individual differences in teachers, to be decided by a choice between two contrasting alternatives. It is not likely that the method for a definitely planned two-year course should be the same as for a definitely planned four-year course. The determination of the effect of different variables on method requires much carefully planned and controlled experimentation. Such problems cannot be solved by taking thought about them.

7. What standards of achievement may reasonably be expected?— The building of objective-achievement tests and the establishment of norms of performance with variations in schools, classes, and individuals at different ages and years of study under varying methods and conditions, will definitely stimulate the improvement of teaching and provide instruments of analysis for the study of problems which are now matters of opinion and conjecture. The study has devoted much time and effort to the making of such tests. A discussion of progress will be given to the section on educational and intelligence tests. If such methods of measurement had been developed or if the study had been given a year or two to devise them as a preparation for its work, it would have been in a position to attack the seven problems just enumerated in a more vital and progressive way. As it is, the study will make, I believe, signal contributions to the improvement of modern foreign instruction, but it will have as a legacy many important problems of which it is clearly conscious for future investigation and research.

NEWER PHONETIC FACTS AS APPLIED TO MODERN-LANGUAGE INSTRUCTION

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(Professor Russell's paper consisted of a demonstration of some of his experiments. He has summarized his remarks concerning the experiments as follows.)

I may say that these experiments seem to demonstrate or prove serious defects in the vowel triangle, so widely used in language teaching. If this scheme is fallacious, language teaching which makes use of the same should be altered. Another set of experiments seems to me to have proved that the place you put your tongue does not change the quality of "stop" or occlusive consonants. The sound created by these can only be influenced by three factors:

1. Manner of contact, release or explosion—whether quick, staccato, clear cut, slow, breathy, or slide.

2. The length of holding—whether emphatic and long, or short and transitory.

3. The pressure behind the point of contact—whether pronounced giving an explosive effect, or at a minimum manifesting but little explosion.

The difference between a Spaniard's pronunciation of *Santa Fe* and the American's pronunciation of the word is to be sought in these above factors. The Spaniard's is clear-cut and staccato, the American's is mushy and sliding. This is due to the fact that the Spaniard holds the consonant and explodes it whereas the American pronunciation shows but transitory contact, and a sliding in and out of position with lack of breath pressure. These differences are not due to the fact that one places the tip of his tongue behind the alveolar ridge and the other in front, which is the customary explanation.

THE MODERN FOREIGN-LANGUAGE STUDY

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The Committee on Investigation of the Modern Foreign-Language Study has completed approximately half of its labors. The mandate which it received from the Committee on Direction and Control was, first, to determine the present situation with respect to the teaching of the modern foreign languages in America and, second, to propose means for improving the situation. In order to carry out the first of these properly, it has been necessary to measure the present situation both quantitatively and qualitatively. This means, first of all, a study of the statistics of enrollment in school and college, not merely to count heads and talk in terms of hundreds of thousands, but to determine what relation the modern languages bear to the total registration in secondary school and college and to registration in other languages. We have sought also the ratio which this enrollment bears to the

total enrollment in various classes of schools; in rural communities, in cities of middle size, and in metropolitan areas. We have sought to determine also when the study of modern languages begins and in what school grades and what years of college instruction the heaviest loads fall, and to find out, so far as it is possible from the figures of a single year, how long students of modern language continue the subject in school and college. These returns are now as complete as we can make them and will be tabulated and given to the public within the present year.

The training and experience of teachers are also a highly important factor in measuring the present situation in modern-language instruction. We have undertaken statistically to determine for each state: the average number of years of training in secondary school, college, graduate school, and summer session, which the modern-language teachers have undergone, what percentage of these teachers have studied or traveled abroad, and how long they have done so, their years of experience in teaching measured by averages taken for various time groups and, finally, the academic degrees which they hold. This is the statistical picture which we hope to present to you within the present year for 80 percent of the secondary schools and, with some variations, for more than 50 percent of the two hundred best colleges in the United States.

As a qualitative measure of accomplishment the study seeks to test present achievement in the four chief modern languages taught in the schools. This we are now doing in various ways. First, we have asked the opinion of citizens who have studied the foreign languages in school and college in the past twenty years. From a sampling of ten thousand graduates of schools and ten thousand college graduates since 1903, we have requested their opinion of the instruction they received, their actual use of the languages since graduation, and the need they have felt for languages in their life experience. We are asking similar questions of certain vocational groups, notably engineers and journalists. After a canvass of the entire country to secure a list of trained and experienced modern-language teachers, three thousand were selected, of which one thousand have consented

to formulate the results of their observation and experience regarding the objectives now attained by the teaching of modern languages and those worth trying for, together with the improvement in methods which they feel to be necessary to this end. In addition, inquiries are going forward regarding college standards in modern languages for admission and graduation, the character of the various forms of content in the courses, such as *realia*, the form of instruction offered to students preparing for scientific or vocational careers, and the reading requirement for higher degrees.

Another highly important step in this measurement of the present situation is the exploration of opportunities for the training of modern-language teachers and the methods used for this in American institutions. More than six hundred professors in higher institutions have stated in detail their experience and opinions on the various phases of this subject. The great majority of foreign-language teachers have no professional preparation, but simply that obtained in ordinary college courses. For this reason our canvass of present practices has included even those institutions where no courses in methods are given. Almost two hundred departments of education have contributed data on observation and practice teaching by candidates in the modern languages. We shall also be able to present, I trust within a year, in addition to a report based on these returns, a survey of recent changes in the training of teachers in the modern languages in France, Germany, and the Scandinavian countries.

All of this contributes to the picture of the modern-language situation as it now exists. This picture, however, will not be complete until we know exactly the quality of the goods which are being produced under these conditions. To measure its quality has been one of our chief concerns. For this purpose we have had to construct objective tests of achievement. Experiment in this line had already been in progress for several years under the direction of Professor Ben D. Wood of Columbia University, and the Department of Education of the State University of Iowa. We have sought to bring together expert advice from the field of educational psychology and adequate

advice from the modern-language field, and with this cooperation we have constructed a battery of tests in the four languages. These tests, measuring capacity in vocabulary, silent reading, and grammar, have been built by techniques that have proved valid under the fire of administration to several thousand students in many schools and colleges from Massachusetts to California. We are progressing with tests in aural comprehension and in free composition. With these instruments as tools of measurement, not only the interested investigator but every teacher can eventually measure the actual accomplishment of his class against national norms of achievement.

Thus far I have enumerated our efforts to discover the present situation. It is apparent that if this program is properly carried through, the means will also be given us for creating entirely new standards in modern-language teaching. To lay bare our weaknesses is the first and most important step toward improvement. It need hardly be said that any teacher who has been called upon to state facts or opinion, even in answer to a statistical questionnaire, must be stimulated to measure his own preparation and to think more deeply on the problems of professional accomplishment. But this is, of course, not all. Our work will be only half done unless we can point out definite and concrete methods by which the teacher's work may be improved. The first step toward this was taken last year in the formulation of a list of more than one hundred problems bearing upon all of the phases of modern-language instruction—prognosis, achievement, curriculum, and method. It is quite apparent that the study of many of these would take a far longer period than the present Committee on Investigation can command. Indeed some of them, notably questions of prognosis and of the processes of learning a language, will doubtless be subjects which our grandchildren will not have solved to their thorough satisfaction. Nevertheless, the committee felt it a duty to assail even these. Many problems have been undertaken as subjects for study and experiment in various university departments of education. Some have already advanced to a point where we can predict, if not their solution, at least a genuine progress toward that end.

Perhaps the group of these of most immediate importance for the modern-language teachers is a series of basic studies which deal with the material of our language courses, and which must furnish a starting point for a revision of tests and texts. These are the study of frequencies in vocabulary, syntax, and idiom. It is not possible to construct a proper test, or indeed to make up a book of instruction that will introduce the student to the elements of the language with the certainty of proper selection, without knowing what words and what linguistic phenomena are the most important from the standpoint of the native Frenchman, German, or Spaniard. This importance is determined in the main by the constancy with which he employs the word or locution. The only possible way to determine this frequency is by the painstaking method of the study of linguistic samples of various kinds. Professor Henmon led the way in the study of four hundred thousand running words in French drawn from numerous categories, and in the establishment of a frequency list of the commonest French words. Professor Buchanan, of the University of Toronto, has done the same for Spanish. The committee is now organizing syntactical researches in the field of idiom for the three commonest modern languages. Naturally these undertakings call for the widest cooperation. Even the preparation of a proper check list is a complex undertaking which demands constant conference with the groups of scholars. We feel it our duty as modern-language teachers to carry this phase of our work through to complete success. It is not too much to say that if this is accomplished we shall have entirely new bases on which to build our elementary and intermediate instruction. We wish to be certain that we are not teaching to the pupil words and usages with which only the advanced student comes in contact and then very rarely.

Our findings, so far as they have value, will be brought before our colleagues throughout the country by means of various monographs and reports, some of which will be of highly technical character. As an illustration, I may mention the study of eye-movements in learning the modern languages now being carried on by Professor Buswell, of the University of Chicago. Others

will have a more comprehensive value, and we hope that one among them may be a sort of basic volume for the use of the modern-language teacher in finding his way into the various technical fields that belong to his work and to a wider knowledge of the books and the equipment which will aid him. Two important contributions have already been made by the study to the thinking of the modern-language teacher. One is the necessity of constant experimentation; even though we may be in an isolated school and cut off from associates of our own guild, we have in our classroom a laboratory of our own, and the experience of our committee shows that the teacher who is ready to experiment under these conditions may contribute in his own way to the furtherance of modern-language instruction. The other important idea is the necessity for cooperation. The really great and worthwhile steps in the development of the teaching of any subject are taken only through the cooperative endeavor of a group of men and women who are concentrated upon the same objectives. What can be done in this regard is illustrated by the success with which Professor Buchanan put through his running count of thirteen hundred thousand Spanish words last summer. We as modern-language teachers must also use the discoveries made by our colleagues in educational psychology. The contribution they make is, it seems to me, more important to the modern-language teacher than to any other. Through cooperation with them we can take the same forward steps which other branches of American education are taking. If we do not avail ourselves of their help, we shall certainly be left far behind.

In conclusion, it should be said that the experience of the committee in the past year and a half is encouraging to the teachers of modern languages. When our problems are stripped of the mass of subjective opinion and speculation that has grown up about them and appear clear-cut as questions for painstaking research, and when we reach the point where we are unwilling to accept mere tradition and prestige of usage, but insist on trying and testing everything by methods and standards that are truly objective, we can feel that the goal of highly improved service is within our reach.

MUSIC

HARRISON D. LE BARON, *Ohio Wesleyan University*, Presiding

SIGNIFICANT TENDENCIES IN PRESENT-DAY MUSIC EDUCATION

PETER W. DYKEMA
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In a single generation school music has developed from a negligible visitor or distant relative into a sturdy son or daughter in the curriculum family. No other subject in the public schools is enlarging so amazingly. From the point of view of growth, it has, after an unduly long period of infancy, entered into adolescence. It is now going through the strange and almost unaccountable expansions of that stage of development. Let us hope that the long period of preparation will guard our subject from some of the usual faults of adolescence. If we are not over-exuberant at our new power and freedom, it is probably due to the years of struggle which lie behind us. School-music teachers today are debtors to many forces and personalities. If we are a little impatient, let us remember that the road behind us was built by much hard labor. The older supervisors have had to move slowly, and they cannot now abandon their long acquired caution. They advance circumspectly, in fact they sometimes seem not to advance at all. And while their dilatoriness may cause them to miss great opportunities which appear for the moment and then pass, the rashness of raw, untrained enthusiasts may blight, irreparably, possibilities of great promise. To the young, the great idea is too nearly synonymous with the new and novel; to the old, the great idea is too completely merged in what has been established.

The above quotation is taken from an address delivered by the writer on practically the same subject as that announced for today. It was given eight years ago at the 1918 meeting of the Eastern Music Supervisors Conference. While the general idea of the growth of school music still characterizes our subject, it is interesting to note some striking changes in the more significant aspects. In 1918 those selected for discussion were: (1) measurement of musical talent, (2) instrumental music, (3) training in listening, (4) revision of high-school music, (5) the school survey, (6) the relation of school music to the community, and (7) the stress upon spiritual values in music texts.

The seven significant aspects of today seem to include practically everything mentioned eight years ago but in strikingly different forms in almost each case. Only two, instrumental

music, and training in listening, appear in about the same guise, and these two have developed greatly. We shall, however, find much that is suggestive in considering the aspects of today and comparing them with those which were noted almost a decade ago.

1. Tests and measurements.—The 1918 address presented as a rather new idea the work of Professor Carl E. Seashore. At that time his material had not yet been committed to phonograph records and thus made widely available. The demonstration of three of the Seashore tests was made with the piano, a set of graduated tuning forks, and a device for operating at regular intervals a telegraph sounder attached to a phonograph. The cost of the set of tuning forks for such a test today would be about three hundred dollars. The phonograph record can be purchased for about a dollar. Many schools have purchased the Seashore phonograph records and have experimented with the use of them as diagnostic material. The most striking and complete use of them has been made at the Eastman Conservatory of Music in Rochester under the capable direction of Miss Stanton. A complete report has been published by the Conservatory, a portion of which was reproduced in the March 1926 number of the *Music Supervisor's Journal.* In brief it may be said that experiments at that school have led to the introduction of the Seashore tests as the chief means of determining whether students shall be allowed to enter upon work at that institution. By means of the tests, applicants are classified into five groups, the upper two of which are immediately admitted, the fifth immediately rejected, and the third and fourth, subjected to further study with the prospect of accepting the third and rejecting the fourth. The object is to evaluate powers to such an extent that only promising students shall be admitted and that these shall be so individualized that they may be given tasks which they can and should do well. Stress is laid not upon averages or combination of marks, but upon ability in each trait examined. By means of this selection of student personnel, the authorities maintain that the whole tone of the school is raised, and an atmosphere of industry and happiness prevails to a greater extent. The public schools, however, have not yet made extensive use of the

Seashore tests. This may be because they are not yet simply enough worked out, or because there is a feeling that these tests are graded too finely and that while much is valuable in them, a condensation, a simplification, or a provision for a more rapid, even if somewhat rougher, evaluation is needed if the schools are to use the Seashore tests of musical talent widely. Professor Seashore hopes to meet the first objection by a pamphlet of suggestions for utilizing the results. He, however, does not now see how any condensation can be made without losing the important and essential provision for guessing or chance marking.

During the intervening eight years, however, besides the Seashore tests, there have been striking developments in other branches of musical tests and measurements. The schools have concerned themselves less with the talents of the children and more with the results of teaching. Attainment tests are attracting much attention. Beach, Kwalwasser, Torgeson, Hutchinson, and other tests have been widely used. Formulations of the findings are now being made. These findings will probably disclose that in many of our schools the ideals set up in the standard course of study of the Educational Council are not being attained. Soon we should have recommendations for improving our work. Doubtless there will be some general recommendations, but in all probability most of the studies will deal with very specific aspects. In a study recently published, for example, Mosher indicated that those schools in which tonal dictation is given are stronger in sight reading and general dictation than those which have not stressed this particular item. Other investigators are dealing with particular phases, but present work throughout the country varies so greatly that comparisons are extremely difficult and not conclusive. As norms are established, however, and as the results in various systems are tabulated and made generally known, there will doubtless be a much closer scrutiny in evaluation of our individual systems than has yet been made. The next decade, as a result of the test and measurement movement, should result in new standards of music teaching, based not on opinion or individual taste, but upon careful measurements in many schools. It is probable that at the Detroit

meeting of the Music Supervisors Conference, steps will be taken to publish a summary of the results of tests up to the present time. In the last decade we have stirred up interest in the field of tests and measurements in music. Soon we should actually obtain results which will alter our procedure in teaching.

2. Instrumental music.—A decade ago we could point to a number of strong schools that were attempting to break away from the old idea that instrumental music in the schools depended upon private instruction undertaken independently by the parents, in other words, that the orchestra depended upon pupils who happened to be able to play. Class instruction in violin especially was well under way in the more progressive towns, and some attention was being given to training upon other orchestral and band instruments.

Since that time these things have developed normally and, in addition, piano class instruction has received a tremendous impetus. There are now at least four systems of class instruction in piano two of which are widely used. The public schools have taken over the direction of the national band contest with a resulting gain in enrollment and quality of work. Orchestras of symphony proportions are found in numerous schools and many of them rehearse in school time. In some schools on account of the various classes to which the members belong, the principal schedules the orchestra before he programs the other subjects in the high school.

Methods of instrumental instruction have not yet been satisfactorily devised. Even in class work the older ideas of private tutoring still rule. To cite one aspect: In many quarters it is believed that one cannot really make music upon an instrument until he has gained considerable technique, in other words, one cannot speak until the alphabet and a supply of isolated simple words have been mastered. On the other hand, some instructors in instrumental music already maintain that from the first day students should learn their technique through taking part in the production of real and, usually, ensemble music. They have worked out plans by which children who have never before touched a violin, a cornet, or a clarinet, can play in an orchestra on such

an instrument from the very beginning. All such questions and others relating to the wider use of toy instruments, the value of having instruments made by the children as advocated by Mrs. Satis Coleman with her creative music, what should be expected in the various grades in a complete scheme of instrumental work —these and other questions are pressing for solution.

In some quarters it is felt that our enthusiasm for instrumental work has resulted in neglect of the vocal aspect and that we must begin to emphasize anew the universality of singing and its peculiar spiritual power when properly conducted.

3. Training in listening: appreciation.—As may well be imagined, the advent of the radio, which is not mentioned in the 1918 address, has greatly stimulated training in listening to music. It is only necessary in this paper to mention the great sweep of music appreciation. We must, however, call attention to certain problems which are rising in this field.

The first problem concerns the end to be attained by music appreciation. Is it an attitude or a subject? Shall we be content merely with a heightened "pleasurable response to musical beauty," or shall we expect music-appreciation training to result in what might be called the common core of musical intelligence regarding music history, biography, and a definite number of representative compositions? A movement for a national music-memory contest requests assistance from the schools because it involves no extra work, as "the children of nearly every community are already familiar with these fifty numbers." A later aspect of tests is devoted to the subject of knowledge about music. It is probable that we shall eventually agree upon the minimum of facts all children should know. We seem to be headed toward a fairly fixed outline of subject-matter in music appreciation, and formalism is already raising its head. The danger to be avoided in any formulation is the confusion of this or any other body of facts with what is immeasurably more important, the live spirit of appreciation toward every aspect of music study. As the subject-matter of appreciation becomes more definite, more extensive, and more exacting, another question is inevitable. Shall appreciation be a separate subject taught by a special

teacher? A recent school survey reports dissatisfaction because one teacher has to do the sight singing and technical work and is not allowed to touch any phase of appreciation. Is this a desirable condition? No, not normally and after the work is well established. It may be necessary and even desirable to inaugurate the work by making it a special subject or period and in the larger systems to place it in the hands of a specialist. Eventually, however, appreciation must find its place not as a special subject but as a point of view, a method to include all music work. Our programs must be enriched. Our material must be enlarged through the use of the phonograph, the radio, the player piano, but it will be unwise to dissociate these from other aspects of music and thus to place them in a false light of being outside the curriculum of music appreciation. A third query must also be considered. Is there danger that the listening lessons may harm the remainder of our music program by weakening and softening the children's power to attack the less easily mastered aspects? Already some superintendents who believe that effort is a *sine qua non* in education are wondering whether these appreciation lessons do not exert an unfortunate influence by reducing the active participation of the children. Can we not assure these advocates of a certain amount of formalism in education—of whom there are, I assure you, a large number—that the relationship of appreciative attitude, therefore, toward technical work should be one of motivation rather than of substitution or displacement of technical work. Insofar as appreciation is used to stimulate greater desire to perfect oneself in music discrimination and performance, it is entirely desirable. Insofar as it is used to excuse abundant talking on the part of the teacher and slight exercise on the part of the children, it is deplorable.

4. Music in the junior high school.—The emphasis on high-school music in the 1918 paper has certainly been transferred within the past few years to junior high-school music. This does not mean the high-school problems have been solved. Rather does it mean that, in spite of considerable expansion in that field, we now realize the detachment of most of the high-school music from the work of the grades. There is no close connection; no

inevitableness. Discussions of junior high-school music are significant in that they involve a more severe examination of the claims of music than we music teachers have been accustomed to. The general educator has to a great extent kept his hands—and hence frequently, his interest—off the subject, but the junior high school is leading him to ask many questions about music. In administration he has tended to emphasize the *high school* rather than the *junior* aspect of the junior high school. He has favored elective rather than required subjects. Music supervisors have been and in many cases are still greatly disturbed over this tendency, but it has helped them to think out the values of their subject. It has made them realize that the general educator must be made acquainted with the possibilities of music in the junior high school and that the music instruction must measure up to these possibilities. The best thought of our music philosophers is that music should be a required subject in the junior high school but that it should be taught much more vitally than is usually the case. No detailed discussion is possible here, but it may be said that in junior high-school music the project idea should be used much more than it now is. This is another way of stating that we must start from the interests of the child. With this, rather than our ideas, our curriculum, as a center, we may proceed to those related aspects which are necessary for broad and illuminating understanding of any native interest. It may seem like wrecking our plans for a systematic development of sight reading, dictation, music history, and the rest of our course, when we swing into a study of the program for a symphony concert, the giving of an operetta or a concert, the composing of a school song, the preparing of a music exhibit, the analyzing of modern dance music, the celebrating of music week, the refining of performance for a contest, or other projects which enlist the hearty support of the students; but wisely directed this vital work may actually push forward far beyond usual attainment all the essential elements of our discarded curriculum formulation. An illuminating discussion of this subject is presented by Miss Etta May Young in the March-April number of *School Music.* Well worked out junior high-school music

should strengthen the music of the seventh and eighth grades, and form a foundation for music in the high school through a larger participation in music in the ninth grade. The junior high school at present is the storm center and we shall have failed if eventually we do not obtain from it a stronger connection than has existed for many years between the music in the grades and that of the high school.

5. Music competitions.—The school survey in music as a formal procedure has not progressed far beyond its status of eight years ago. While the survey movement in general continues with great strength, in only a few cases have music specialists been called in. It is evident that we musicians have not yet demonstrated to the general educator the close integration of our subject with the educational program as a whole. In the meantime, however, perhaps characteristically within our own field instead of in relation to the whole educational scheme, we have developed a substitute which serves many of the purposes of a survey. As it is by no means a parallel or an adequate substitute, we must continue to work for school surveys which shall include a competent evaluation, especially on a comparative basis, of music in the curriculum as a whole. I refer to the important development of competitions in music. Although primarily applied to the high school, there have been enough competitions in the junior high school and even in the grades to give a large measure of comparison between the work of various school systems. In the high-school field, the contest has been one of the most potent influences for the developing of fine standards of performance. About twenty states have received the great impetus which the gathering of its young people in friendly competition has produced. Fortunately, this competition movement is beginning to flourish just at a time when the stress of appreciation is receiving constant attention. The danger of competitions is always the stressing of externalities, the producing of a good performance irrespective of the effect upon the performer. The appreciation movement is an excellent stabilizer and counter-irritant. The teacher who desires to create an appreciative spirit in her children cannot fail to remember occasionally that there

is more to a contest than winning. Growth and development of the contestants in the spirit of appreciation are constantly in the mind of the wise contest-leader.

6. School music and music for recreation.—A significant change has come about in the sixth item, that of the relation of school music to the community. Eight years ago when, as you recall, we were in the midst of the war, our supervisors were greatly concerned as to what they could do to redeem the wayward musical tendencies of the community. We were sure that we had the wisdom and the standards which were sadly lacking in the wildness of the war music, and that we were called upon either to stem the tide or hold high our standards until the tide ebbed. The tide has ebbed but we fail to find the communities quite so tractable as they were before or even during the war. The effects of that hectic period are still evident in the music tastes of our people, and these tastes instead of weakening seem to be getting more pronounced. Our people have apparently through the wider participation of war days developed an assurance and a definiteness, a willingness to depend upon their own desires, which was rather unusual ten years ago. The efforts to keep up morale during the war resulted in a greater use of music. When the war was over, the love for music and the desire to have it continued. As a result such a wide use of music has been developed in the recreation program of our nation during these eight years that the school music-leader can no longer disregard it. He now turns to the playground, the camp, the municipal band, orchestra, chorus, motion-picture houses, the commercialized radio—to these and other aspects of the use of music in recreation—and he seeks to gain from them suggestions for making music in the school more vital. Music in all these manifestations is widely used, greatly appreciated, and carried on not by authority but by intrinsic interest. Time was when the school-music period represented the bright spot in the life of the child. Now music in school has a hard time to be as attractive as music in the home, or in the moderately priced motion-picture house. School music must learn from the recreation program of the community how to keep its appeal vital. The project method is a partial solution.

7. *The desire for improvement.*—Eight years ago the topic of the tendency toward examining and evaluating our efforts in the light of their character-forming influence recorded the beginning of a striking tendency today. This may be called the restlessness or questioning attitude of our teachers. It is not only that we are examining our material and our methods much more closely than we ever did before, that we are becoming independent in our judgments, it means that we are restless and questioning as to what it is all about. There is a re-evaluation, a searching of the heart, which is trying but most heartening. It makes itself manifest in many ways, notably in the widespread of the movement for curriculum revision and in the tendency of teachers to prepare themselves more wisely for their work. One of the most helpful re-examinations of the place of music in the schools is found in the report of the committee on music, published in the *Department of Superintendence Fourth Yearbook*, entitled "The Nation at Work on the Public-School Curriculum." This volume, which is to be obtained at two dollars a copy from the National Education Association in Washington, states the general and specific aims of music instruction as follows:

> The general or humanistic aim of music instruction is to contribute to the character of the individual and society an additional measure of the idealism, the joyous preoccupation with unselfish interests, the elevation and purification of feeling, and the psychic health dependent upon abundant but orderly expression of emotion, that come from appreciative contact with, and the endeavor to create or recreate, the beautiful in music. The specific or musical aim is to develop appreciation of the beauty that is in music, as a condition of attaining the general ends described.

It lists as some of the subordinate aims and special features of music instruction the following nine items:

1. Instruction in staff-notation.
2. Instruction in singing.
3. Use in connection with physical well-being.
4. Use as a socializing influence.
5. Use as a recreational activity.
6. Use in ethical and moral training.
7. Use to intensify emotion.
8. Music as vocational training.
9. Use as an aid in general development, through rhythm.

How many of us carry on our work with such an understanding of principal and subordinate aims?

These and other discussions which are constantly going on in our meetings show that we are to an unusual extent in a process of readjustment. To realize that our teachers are not content with their own wisdom in order to solve the problems which are upon them, one has only to read the advertisements in educational periodicals of the multitude of summer sessions, to note the offerings of educational institutions which embrace not only two-, three-, and four-year courses for supervisors, but well-established graduate work leading to Master's and Doctor's degrees in our field. To these institutions our supervisors go in ever greater numbers, not only during summer sessions but during years of absence taken deliberately when the teaching or supervising work is going well. We are taking our work and ourselves seriously and that is a step toward a similar evaluation from others.

We are in the midst of a period of questioning and change. School music has never been more alive than it is today. It has never accomplished more. Our faults lie principally in our striving to do many things and in our doubting which are the essential ones. The next decade will certainly witness a considerable readjustment of our work. This will come when we learn what is principal and what is secondary and when we study out means of obtaining surely and effectively the first things first. May we have the courage, the joy, the devotion, and the wisdom to accomplish our tasks!

THE STATE OF MUSIC EDUCATION IN OHIO

Edith M. Keller
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Ohio's progress in music is largely dependent on general school conditions. The beginning of the movement for better schools took place in 1914 when the New School Code was enacted by the General Assembly in a special session called for this purpose. In 1914 before county superintendents were employed to direct the school affairs of the different counties, Ohio ranked twenty-seventh in education, in 1920 she rose to twelfth place,

and in 1924 to third among all the states of the union. The Ayres survey was the basis for the ranking. California and New Jersey were shown to be in the lead. As a result of Ohio's progressive program, she was one of the few states to consider music important enough to employ a music supervisor for the state work. Such positions have been created in the following states: New York, Pennsylvania, Maryland, Ohio, Kentucky, and Michigan. Ohio was the fourth state to take the forward step. In October, 1922, Mrs. Nelle I. Sharpe was appointed State Supervisor of Music. Under her direction a campaign was inaugurated to interest rural schools in an organized music program. When I came into the situation September 1, 1924 two phases of the work that impressed me as needing attention were the problems of teacher training and the rural situation.

Teacher Training

Since teacher-training work had occupied my attention for seven years, I was naturally interested in studying conditions in our various institutions for training supervisors and grade teachers, with the idea of comparison and standardization of the work if possible. Ohio is one of the few states which has required only two years for the preparation of the supervisor of music.

A study of conditions on September 1, 1924, in the various accredited schools for training supervisors gave the following information: twenty-one accredited schools had courses varying in length from two to five years, and two schools have since been recognized; twelve schools offered two-year courses, eight of which required two years and offered an optional third year; six schools offered three-year courses, three of which required three years and the others optional longer courses; eight schools offered four-year degree courses, five of which required four years.

It was found that many courses in various schools differed widely in requirements and credits for the same amount of work. Practically all schools met the requirement of educational subjects. In many instances, however, these courses were offered

in the wrong sequences. Some were lacking in freshman English. The greatest discrepancy in credits was found in applied music. In the two-year course for the same number of lessons a week and the same amount of time devoted to practice, credit varied from two to fourteen hours. Schools giving high credit were lacking some other essential work. In sight singing and ear training, credits also varied greatly. Poor combinations of subjects were found, such as methods and sight singing. In many schools faculty members were too few to carry on the work to advantage. In one instance a faculty of three was training grade teachers, supervisors, and candidates for degree work in applied music. Many schools lacked practice-teaching facilities of the right type, and the work was inadequately supervised. Practically all of these schools were personally visited and the courses reorganized. Wholehearted support was given for a more extensive and better program, and many schools indicated that they would welcome a longer period of training, but were waiting for the state to take the step in requiring it. Several schools at once planned three- and four-year courses.

Several years ago the Music Supervisors National Conference went on record in favor of a four-year course of study for supervisors, and some definite requirements were established. Oberlin was the first Ohio institution to change to a four-year course, Miami was second, and Ohio Wesleyan and Wittenberg soon followed. Other schools are now planning the same type of course. After the survey of work was made, the state department was convinced that steps should be taken to require a three-year course. It is hoped that four years may soon be required. The new ruling for a three-year course of study has been made through the Ohio High-School Standards. This will be in effect for all who enter teacher-training institutions in September, 1926. At this time all such schools must offer three-year courses if their teachers qualify for high-school work. Teachers with two years of training must add annually to their credits until the third-year requirement has been met. The additional training must be begun not later than the summer of 1928. The additional year is to be devoted to the special subject and academic work.

At present, Ohio has twenty-five accredited training schools for grade teachers. Several years ago a requirement of two periods a week for three semesters was made in the grade teachers' course of study. Previously, the requirement had been two semesters of work. Letters were sent to all institutions advising them of the requirement and later a definite course of study was sent. In visiting many institutions we found that some were wholly unaware of the requirement. Several large well-established institutions were offering the third semester's work as elective. Some required one term only of theory and sight reading. Students enter these courses, in many instances, thinking that as music is a special subject, no responsibility need be taken by the grade teacher. We must impress on these prospective teachers that they are to be a part of the great educational program in music.

Such teacher-training work encounters many difficulties. Many of our schools have offered no music instruction in the grades or high school. Students, as a result, enter our colleges and normal schools with little if any musical background, and we find it extremely difficult in the limited period of training to produce qualified teachers in all instances. Music is approached through sense perception. It has been called a habit-forming subject; and the welfare of the pupil demands that right habits be established in the early years of school life. The training becomes more and more difficult with advanced years. Many grade teachers in service who are wholly unqualified to teach music had their training some time ago and escaped the music requirement. Supervisors have stated that the more recently trained grade teachers are, on the whole, much better qualified to teach music. Teachers are also availing themselves of the opportunity of taking additional work in summer school. Ohio has at present fifty-one county normals offering courses of one year's length for the training of grade teachers. At the end of the year's work many of them go out to teach in nearby rural schools. Since much of the music work in these schools depends on the knowledge which these teachers have gained, we are concerned about their

training. It has been the policy of the department to put in charge of this work some well-qualified supervisor of the nearby vicinity.

Rural Situation

The greatest problem in music has been in connection with our rural schools. Last year four entire counties had no music instruction, In forty counties, half of the schools had some; in thirty-nine, there was little, if any. A few counties have exceptionally well-organized programs with music in every school. Many localities and schools have taken an active part in the introduction and promotion of music. Where music is not taught regularly there is usually some good reason, such as lack of funds or impassable roads. The circuit plan has been encouraged in rural districts; school authorities have been convinced that they may have a good music program if they will share in the services of a well-qualified circuit supervisor. In such a program the help of the regular grade teachers, a definite time allotment, and adequate equipment, are needed. Over half of the counties of the state have been visited, the work of local teachers observed, and conferences held. Wherever possible during the week of the visit, a meeting has been called, at which time an all-county program has been planned. In many instances, county courses of study have been worked out, and a general plan by which schools having music may create county-wide interest. All-county choruses, orchestras, and bands, have been planned for various county meetings.

Ohio has twenty-seven counties dependent very largely on help from the state equalization fund. Thirty counties have some poor districts in which help is necessary. We have encouraged music in all of these schools. Help has never been refused when a plan has been worked out which meets our approval. We have asked that in such territory, supervisors instead of special teachers be employed; their qualifications must meet the approval of the department; the general support and cooperation of grade teachers must be secured. We have some

excellent programs in some of our state-aid territory. The organization and results secured in Perry County, for example, are excellent. A pitiful lack of equipment has been found in many instances. Young and inexperienced teachers have sometimes hesitated to ask for absolute essentials. We have asked that all supervisors and grade teachers be equipped with chromatic pitch pipes. In this connection may I state that coarse and strident tone quality usually exists where poorly trained teachers are at work; there should be books for the songs and sight reading, a staff-liner, teachers' manuals, a phonograph and suitable records for appreciation and correlation work; interesting reference material and music magazines should be in the school library as soon as possible. With such equipment, a well-qualified supervisor, and cooperation of all concerned, a most excellent program may be worked out. Many superintendents have expressed the opinion that the morale of the entire school is better since music has been a regular part of the school program.

Progress is slow but sure. We do not require by law that music be taught in our schools; a few states have secured legislation for it, but I doubt whether anything which is forced is as effective as it should be. We believe that by educating our people to the values of a well-organized music program, it will not be left out of the curriculum. Interest continues to be keen; and when we have convinced the public that our music program is making a real contribution to the daily life of the child, and is functioning as it should in the training for a higher type of citizenship, we may expect a real awakening along the line of music education. Then only, may we hope to reach the goal set by our Music Supervisors National Conference, "Music for every child, and every child for music."

NON-BIOLOGICAL SCIENCE

A. D. Cole, *Ohio State University*, Presiding

HOW THE SPECTROSCOPE REVEALS THE STRUCTURE OF ATOMS

Henry Gordon Gale
University of Chicago

Since about 1910, most physicists have come to believe in the so-called Rutherford type of atom. This consists of a minute positively charged nucleus, surrounded by a definite number of negative electrons, moving in circular or elliptic orbits.

Atoms are about 10^{-8} cm in diameter, and electrons, about 10^{-13}. The mass of an electron is $\frac{1}{1838}$ of that of a hydrogen atom. All electrons are exactly alike, whether they are the β-rays of radioactivity, or the cathode rays of vacuum tubes, or electrons freed from molecules of gases or metals by X-rays, or electric fields, or ultra violet light. Each electron has a charge of 4.774×10^{-10} electrostatic units, and every electric charge is an exact integral multiple of this unit. The positive nucleus of an atom is very small, but most of the mass of the atom is concentrated in it. The nucleus of the hydrogen atom, the smallest known, contains almost the whole mass of the atom, but its diameter is much smaller than that of an electron, perhaps as small as 10^{-16} cm. The hydrogen nucleus with a positive charge exactly equal to the negative charge on the electron, is sometimes called the positive electron, but more commonly the proton.

It is well to consider the structure and properties of atoms in connection with the Periodic Table. Assigning the numbers 1 to hydrogen and 2 to helium, it is seen that Li, Be, B, C, N, O, F, and Ne occupy places numbered 3 to 10, and each of the other elements has a definite place in the Table, determined largely by its atomic weight, but more definitely by its chemical and physical properties. Thus argon and potassium are evidently in their proper places, in spite of the fact that argon has an atomic weight of 39.9, while that of potassium is only 39.10. It will

be seen that there are still a few vacancies in the Table. Masurium, Ma, 43, and Rhenium, Re, 75, have been announced within the last two or three years by Noddock, Berg, and Tacke, in Germany, and still more recently Ilinium, Il 61, by Professor Hopkins, Dr. Yntema and Mr. Harris, at the University of Illinois. This leaves only two vacant places in the Table, between H, 1, and U, 92, the places at numbers 85 and 87. Each element is therefore now associated with a definite number, N, known as the atomic number, and this number N has been found to be much more significant than the atomic weight in many respects.

The beautiful experiments of Moseley on the wave-lengths of characteristic X-rays of the different elements, and the experiments by Barkla on the scattering of X-rays, indicate respectively that the positive charge on the nucleus of every atom is $N \times e$ and that the number of electrons surrounding the nucleus is N. Since a normal atom is always electrically neutral, the two conclusions reach the same end.

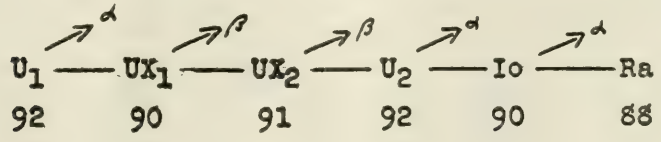
Hydrogen has for its nucleus 1 proton, of positive charge e, and one electron moving about this nucleus as a center of attraction. The second element in the Periodic Table, Helium, has two external electrons, and its nucleus has a charge $+2e$. Since the atomic weight of *He* is 4, we believe that the nucleus contains four protons, but the charge on the nucleus is only two, so it must contain two electrons in addition to the four protons. This leaves the net positive charge on the nucleus 2, as it must be.

The nucleus of the helium atom is extremely stable, and is now known to be identical with the α particle of radioactive substances. The β particle is certainly an electron, and as you know, the γ-rays are merely very short X-rays. If we call the atomic weight of oxygen 16 and helium 4, on the same scale the atomic weight of hydrogen is 1.0077. If the helium nucleus, or α particle is made up of four protons and two electrons, we would expect it to have an atomic weight of 4.032. A possible explanation may be found in the relativity theory which states that the equivalence of mass M is grams and energy, E, in ergs, is

$$m = \frac{E}{c^2},$$

where c is the velocity of light 3×10^{10} cm per sec., making 1 gram equal to 9×10^{20} ergs or 2.1×10^{7} calories. This is equivalent to about 5×10^{-5} ergs per helium molecule, which is more than three times the kinetic energy of the swiftest α particles known, those from thorium C_2. We may assume that when four protons and two electrons unite to form the very stable α particle, a large amount of energy is radiated, and the mass is reduced accordingly. An equal amount of energy would have to be applied to the α particle to break it up again, and this accounts for its great stability. Another possibility, which should not be overlooked, is that the α particle is a third distinct entity which enters into the constitution of atoms in addition to protons and electrons. There is no direct evidence against this possibility, but we instinctively assume, in the interests of simplicity, that all matter is made up of only two kinds of things, protons and electrons. Whether we regard the α particle as a third form of matter, or as a very stable grouping of four protons and two electrons, it seems certain that nuclei of all atoms are made up of α particles, β particles and protons, and nothing else. The experiments of Rutherford and those of Geiger and Marsden on the scattering of a narrow beam of α particles by thin films of gold and other metals, not only indicate that the charge on the nucleus of each atom is Ne, but furnish our strongest proof that the nucleus is extremely small, certainly not greater in diameter than 10^{-12} cm, for even such a heavy atom as gold. These experiments furnish one of the chief reasons for our belief in the reality of the Rutherford atomic model.

The phenomena of radioactivity furnish proof of the spontaneous disintegration of atomic nuclei. When uranium, for example, disintegrates it does so according to the following plan:



It is seen that U_1 and U_2 have the same atomic numbers, that is, the same nuclear charge, but the nucleus of U_2 has one α and two β particles less than U_1. The atomic weights are 238 and 234 respectively. We should, therefore, expect the U_1 and U_2 to have the same number of external electrons, similarly distributed. They have the same chemical properties, but the radioactive properties differ, since, although each loses an α particle as its first radioactive change, the U_2 emits them 2,200 times as fast as U_1. Similarly UX_1 and Io have the same atomic number, but the atomic weights are 234 and 230 respectively and UX_1 gives off β particles and Io, α particles. One half of a given mass of UX_1 will disintegrate in 23.8 days, while the time required for an equal proportion of Io to disintegrate is 90,000 years. The two substances appear identical from a chemical standpoint. The fact that the atomic number changes with the emission of α and β particles, proves that they come from the nucleus.

In general when a radioactive substance gives off an α particle, the atomic weight diminishes by 4, and the atomic number by 2. When a β particle escapes, the atomic weight is not affected appreciably, but the atomic number increases by 1, since a charge $-e$ has gone off with the electron. If then, an atom loses in any way an α particle and two β particles from its nucleus, its atomic number is unchanged, although its atomic weight is diminished by 4. Similarly, if an atom loses one proton and one β particle, its atomic number will be unchanged although its atomic weight will be diminished by 1. We may therefore have two or more substances with the same atomic number, that is, with the same charge on the nucleus, but with different atomic weights. Such substances, identical in chemical and physical properties, are called isotopes. Many of them have been discovered by Aston in England and by Dempster at Chicago. Dempster has shown that ordinary lithium, atomic weight 6.94, consists of a mixture of some atoms of atomic weight 6, and a larger number of atomic weight 7. The lighter isotope has a nucleus consisting of one α particle, two protons, and a β particle; the heavier has one

α particle, three protons and two β particles, leaving each with a net positive charge $3e$. A few of the typical isotopes are listed in Table I.

Since no physical or chemical test can detect any difference between two isotopes of an element except only such as depend on atomic weight, we conclude that the physical and chemical properties in general are determined by the charge on the nucleus, and therefore by the number and distribution of the external electrons. Gravitation, that is, atomic weight, and radioactive

TABLE I. A LIST OF TYPICAL ISOTOPES

Atomic Number N	Chemical Symbol	Atomic Weight	Isotopes
(1)	(2)	(3)	(4)
3.....	Li	6.94	7, 6
12.....	Mg	24.32	24, 25, 26
17.....	Cl	35.46	35, 37
30.....	Zn	65.37	64, 66, 68, 70
36.....	Kr	82.92	84, 86, 82, 83, 80, 78

properties depend on the nucleus. The atomic weights of all elements expressed in terms of O = 16 can be given as mixtures of isotopes of whole numbers except H = 1.0077. Many elements like He = 4, C = 12, F = 19, Na = 23 apparently have no isotopes.

It seems certain that all the elements except hydrogen have two external electrons fairly close to the nucleus, arranged like the two electrons of He, and moving in nearly circular orbits in planes inclined at an angle of 120° to each other. The additional electrons from the third to the tenth, as we pass from Li to Ne, probably occupy separate orbits at distances considerably farther from the nucleus than the first two. In this second group or "shell" of electrons Li has one; Be, two; B, three; C, four; N, five; O, six; F, seven; and Ne, eight. This group of eight appears to be very stable and accounts for the chemical inertness

of neon. Sodium, the next element, with atomic number 11, has its eleven electrons arranged in shells of 2, 8, 1, and this outside group increases by one for each element as we go across the Table to A, which has 2+8+8, a very stable outer ring of 8

TABLE II. GROUPING OF ELECTRONS IN ATOMS

Element	Atomic Number, *N*	K	L	M	N	O	P	Q
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
He	2	2						
Ne	10	2	8					
A	18	2	8	8				
Kr	36	2	8	18	8			
Xe	54	2	8	18	18	8		
Nt	86	2	8	18	32	18	8	
Li	3	2	1					
Na	11	2	8	1				
K	19	2	8	8	1			
Cu	29	2	8	18	1			
Rb	37	2	8	18	8	1		
Ag	47	2	8	18	18	1		
Cs	55	2	8	18	18	8	1	
Au	79	2	8	18	32	18	1	
Be	4	2	2					
Mg	12	2	8	2				
Ca	20	2	8	18	2			
Zn	30	2	8	18	2			
Sr	38	2	8	18	8	2		
Cd	48	2	8	18	18	2		
Ba	56	2	8	18	18	8	2	
Hg	80	2	8	18	32	18	2	
Ra	88	2	8	18	32	18	8	2

electrons. Potassium has one in a fourth group, K=2+8+8+1=19, corresponding to its atomic number 19, like Li and Na, having a single electron in the outermost shell. Ca=2+8+8+2=20, is like Be and Mg in having two electrons in its outside shell. In building up to Cu=2+8+18+1=29, electrons are added to

the third shell rather than the fourth. The probable groupings for some of the elements are given in Table II.

It will be noted that the inert gases all have an outside ring of 8, an exceedingly stable form. The alkalies have only one in the outside shell, which is presumably easily knocked off, accounting for the electro-positive character of these metals. The halogens, F, Cl, Br, I, come in each case just before one of the inert gases. Seven electrons are presumably in the outer shell in each case. This shell may be supposed to take up an extra electron readily, thus accounting for the strong electro-negative character of these elements. The general plan for the heaviest elements is $2+8+18+32+18+8=86$ for Nt and $2+8+18+32+18+8+6=92$ for Uranium.

Cu, Ag, and Au have $18+1$ for the two outer shells, which accounts for their positions in column *1*, of Table II, but explains their difference from K, Rb, and Cs, which each have $8+1$ in the two outer shells.

The well-known series lines of hydrogen, λλ6563, 4861, 4340, 4102, and so on, were found by Balmer, very early in the history of spectroscopy, to bear a very simple numerical relation to one another, namely,

$$\lambda = \lambda_0 \left(\frac{m^2}{m^2 - 4} \right)$$

Following Balmer's discovery, much time was wasted in trying to find series in the spectra of other elements, but little progress was made until the frequencies of the lines

$$\frac{c}{\lambda}$$

or the so-called wave-numbers

$$\frac{1}{\lambda}$$

were introduced in place of the wave-lengths. Many series were then found, especially by Kayser and Runge, and by Rydberg, who laid the foundations of our present knowledge of series.

Bohr gave the first satisfactory explanation of the simplest known series, the line spectrum of hydrogen. We can arrive at Bohr's result by the most elementary mathematical considerations.

Let us assume an electron of mass m and charge $-e$ moving in a circle of radius a about a nucleus of charge E, with angular velocity ω. We have only to assume that the electrical attraction

$$\frac{eE}{a^2}$$

is equal to the centrifugal force $m\,\omega^2\,a$ and we have at once

$$\frac{eE}{a^2} = m\omega^2 a \text{ or } eE = m\omega^2 a^3 \tag{1}$$

Here a could have any value, and the system would be in equilibrium for a corresponding value of the velocity. Bohr boldly assumed, however, that when an electron has a velocity v about a center at a distance a, its moment of momentum mva is always equal to $nh/2\pi$, where n is an integer, and h is Planck's constant. This assumption gives:

$$\frac{nh}{2\pi} = mva = m\omega a^2 \tag{2}$$

since the linear velocity $v = \omega\, a$. If now (1) is divided by (2) we get at once

$$\frac{2\pi eE}{nh} = \omega a = v \tag{3}$$

and from (2) and (3)

$$a = \frac{nh}{2\pi mv} = \frac{n^2h^2}{4\pi^2 meE} \tag{4}$$

The kinetic energy is therefore, from (3),

$$\frac{1}{2}mv^2 = \frac{2\pi^2(meE)^2}{n^2h^2} \tag{5}$$

It may be shown very simply that, in such a case as this, the kinetic energy is numerically equal to W, the total energy of the system, that is, to the sum of the kinetic and negative potential energies.

We see further that now since

$$a = \frac{n^2h^2}{4\pi meE}$$

the values of a are dependent on n, and the constants m, e, E, and h. If we put a_o for the smallest value a can have, when $n=1$, a is restricted to values a_o, $4a_o$, $9a_o$, $16a_o$. . . . . n^2a_o. The energies are also restricted to define values proportional to $\frac{1}{n^2}$.

It is clear that work must be done on an electron to carry it out from any orbit to one farther from the nucleus against the electrical attraction. When the electron drops back from this outer to an inner orbit, an equal amount of energy is freed and appears as radiation. Bohr here applied the quantum theory again in the following equation, which states that the difference in energy in any two orbits, W_1 and W_2, $= \Delta W$ is equal to the energy radiated, and the energy radiated has a frequency ν such that

$$\Delta W = h\nu$$

Therefore from equation (5)

$$h\nu = \frac{2\pi^2 m(eE)^2}{n_1^2h^2} - \frac{2\pi^2 m(eE)^2}{n_2^2h^2}$$

$$\text{or } \nu = \frac{2\pi^2 m(eE)^2}{h^3}\left(\frac{1}{n_1^2} - \frac{1}{n_2^2}\right)$$

To apply these equations to the case of hydrogen it is merely necessary to put

$$E = e = 4.774 \times 10^{-10}$$

$$\frac{e}{m} = 5.31 \times 10^{17},$$

$$h = 6.55 \times 10^{-27}$$

To avoid the use of numbers which are too large, it is customary to use ν as the number of vibrations the light makes while traveling 1 cm in a vacuum. The equation then becomes

$$\nu = \frac{2\pi^2 m(eE)^2}{h^3c}\left\{\frac{1}{n_1^2} - \frac{1}{n_2^2}\right\} = 109{,}700\left(\frac{1}{n_1^2} - \frac{1}{n_2^2}\right)$$

where $c = 3 \times 10^{10}$, the velocity of light.

If we put $n_1=1$ and $n_2=2$, 3, 4, etc., we get frequencies corresponding to wave-length 1215, 1025, 972.....911, the well-known Lyman series, discovered by Professor Lyman of Harvard.

If $n_1=2$ and $n_2=3$, 4, 5,..... etc., the frequencies correspond to the lines 6563, 4861, 4340, 4102.....3646, the Balmer Series.

For $n_1=3$ and $n_2=4$, 5, 6,.....etc., the corresponding wave-lengths are 18,751, 12,818, 10,940,.....8200, an infrared series discovered by Paschen, and for $n_1=4$ and $n_2=5$, 6, 7, ...etc. the wave-lengths are 40,500, 26,300,.....14,500, a series discovered by Brackett at Johns Hopkins in 1922.

The agreements between observed and calculated wave-lengths are excellent, as good, in fact, as the early measurements and wave-lengths and considerably more exact than the measurements of the constants e, m, and h. Let us consider next what happens in the case of a helium atom which has lost one electron and has therefore a residual positive charge. Such an atom is designated by the symbol He^+. The equations already derived may be used. It is necessary merely to put $E=2e$. The orbits will be only half as far out as before for a given value of n, and

$$\nu=4R\left(\frac{1}{n_1^2}-\frac{1}{n_2^2}\right)$$

where R is written for 109,800. Since the orbits, for given values of n, are only half as far out as before, there will be twice as many series, and twice as many lines in each series, over a given range of frequency or wave-length. For even values of n_1 and corresponding even values of n_2 however, the frequencies will be the same as for the values of n_1 and n_2 one half as large in the case of hydrogen. But here Bohr's theory seemed to meet a serious difficulty, since the lines of He^+ do not agree exactly in wave-length with the corresponding H lines. The discrepancies in wave-lengths between the lines in the Balmer series of hydrogen, $n_1=2$, $n_2=3$, 4, 5.....etc., and the corresponding lines in the spectrum of He^+, $n_1=4$, $n_2=6$, 8, 10.....etc., are as follows:

H =	6562.8	.....	4861.3	.....	4340.5	.....	4101.7
He^+ =	6560.1	5411.6	4859.3	4561.6	4338.7	4199.9	4100.0

These differences, are much too large to be accidental. If we look back at our atom model for a moment, we shall remember that we assumed the nucleus was at rest, and the electron rotated around it. But this is, of course, not what we should expect. What actually happens in the case of either H or He^+ is that the electron and nucleus revolve about their common center of gravity. The necessary corrections in the original equations give the very simple result in every case of replacing m by

$$\frac{m}{1+\frac{m}{M}}$$

where m is the mass of the electron and M the mass of the nucleus. This simple and obvious correction cleared up the discrepancy between the wave-lengths of H and He^+ and indicated that they should differ by exactly the amount by which they do actually differ.

As the comparison of observed and computed wave-lengths was carried out more and more vigorously, a new difficulty appeared. Professor Michelson had shown years ago that the H lines are not single, but consist of at least two components each, much too broad and too close together to be observed by an ordinary spectroscope. The lines of He^+ are even more complex. There appeared to be no way of accounting for the "fine structure," as it is called, of these lines. Sommerfeld succeeded in finding a way out of this difficulty. We must no longer think of the electron as moving about the nucleus in circles only but must see what happens when the paths are elliptical as well as circular. The elliptic motion may be treated mathematically as a combination of angular motion with radial motion. Just as we "quantized" the circular motion by the equation

$$mva = \frac{nh}{2\pi}$$

and found that only orbits of radius a_o, $4a_o$, $9a_o$.....etc., could exist, so we may quantize the angular and radial motions

in an ellipse. We shall find that the circular orbits, after the inner one, may be accompanied by elliptic orbits, but only a limited number of ellipses may occur, namely those in which the ratio of the minor axis, b to the major axis a is given by

$$\frac{b}{a} = \frac{k}{k+n^1}$$

where k is the new quantum number, defining and limiting the angular or azimuthal motion, and n' is the quantum number for the radial motion. Here always

$$k + n' = n,$$

where n is a new "total" quantum number.

Instead of a circular orbit corresponding, for example, to $n=4$ (and $a=16a_o$), the condition now is

$$n = k + n' = 4.$$

Since there must always be some angular motion, k cannot be zero, but in the case of the circle there is no radial motion and n' is equal to zero. Values of $k+n'=4$ may therefore be made up in four ways, $4+0$, $3+1$, $2+2$, and $1+3$. The corresponding orbits are the circle and three ellipses with the ratio

$$\frac{b}{a} = \frac{3}{4}, \frac{2}{4}, \text{ and } \frac{1}{4}$$

respectively. In general instead of a circular orbit corresponding to quantum number n, we find a circle of radius $a=n^2a_o$ and $(n-1)$ ellipses, all having major axes equal to the diameter of the circle, and minor axes decreasing according to the equation

$$\frac{b}{a} = \frac{k}{n} = \frac{k}{k+n'}$$

as k decreases from n for the circle, to 1 for the most eccentric ellipse. There are accordingly n different orbits forming a related group, instead of a single circular orbit, for each value of n.

For the fourth family of orbits,

$$n = k + n' = 4,$$

we have four orbits, a circle, and three ellipses; for the third family,

$$n = k + n' = 3,$$

we have three orbits, a circle, and two ellipses; and when an electron passes from one group to the other, it might pass from any one of the four outer orbits to any one of the three inner orbits, a total of twelve possibilities. In accordance with Sommerfeld's principle of selection, however, a transfer from one family

$$n_2 = k_2 + n_2'$$

to a family

$$n_1 = k_1 + n_1'$$

takes place only when the change in k is equal to ± 1. In the case above, therefore, the only transfers effected are from

$$\begin{gathered} k_2 = 4 \text{ to } k_1 = 3, \\ k_2 = 3 \text{ to } k_1 = 2, \\ k_2 = 2 \text{ to } k_1 = 3 \text{ or } 1, \\ \text{and } k_2 = 1 \text{ to } k_1 = 2, \end{gathered}$$

a total of five transfers instead of the possible twelve.

However, when the energies are computed for the elliptic orbits in terms of the new quantum numbers k and n' it is found that the frequency comes out

$$\nu = R\left\{\frac{1}{(k_1+n_1')^2} - \frac{1}{(k_2+n_2')^2}\right\}$$

But

$$k + n' = n,$$

and there is, therefore, no difference in energy or frequency whether an electron is associated with a circular orbit or one of the elliptic orbits of the same family. At this point Sommerfeld turned to the theory of relativity, which states that the mass m of a moving body bears the following relation to velocity v

$$m = \frac{m_0}{\sqrt{1-\frac{v^2}{c^2}}}$$

where m_0 is the mass of the body when at rest, and c is the velocity of light. Now when an electron moves about a nucleus in an ellipse, its velocity is not constant and the energy in an elliptic

path is slightly different from that in a circular path with the same $k+n'$.

The final expression for the energy in any ellipse is rather complicated. The point of interest for us is that this expression contains not only $k+n'$, the total quantum number determined by the family of the orbit, but also independently k, the angular or azimuthal quantum number, although this has a very small coefficient. The energy in an elliptic orbit is therefore slightly different from that in the circular orbit of the same group, and this difference is greater as the eccentricity of the ellipse is greater.

These small differences in energy make an appreciable difference in the resultant wave-lengths. Sommerfeld found that by thus considering the effect of velocity on the mass of the electron, the fine structure was accounted for, both qualitatively and quantitatively, very satisfactorily. Paschen's photographs for some of the He^+ lines agreed in a remarkable manner with the predictions of Sommerfeld's theory. We have been considering, in the light of Bohr's theory, only the cases of H and He^+, where a single electron moves about a charged nucleus. The agreement between theory and experiment is entirely satisfactory.

When we pass to the more complicated cases of a group of electrons about the nucleus, a complete mathematical treatment is impossible. Even the case of neutral helium with two external electrons has not been solved in an entirely satisfactory way. Certain extremely helpful lines of argument may be applied, however, even in the case of very much heavier atoms. These arguments are based in general on the hypothesis that the moment of momentum of the light-emitting electron, the one least firmly bound to the atom, and the resultant moment of momentum of the remainder of the atom excluding this one electron, are each equal to

$$\frac{nh}{2\pi}$$

where n is some integer. The further assumption seems justified, that the axis of rotation of the light-emitting electron makes only such angles with the axis of rotation of the remainder or "core"

of the atom that the vector sum of the two moments of momentum shall give a resultant moment of momentum which may also be set equal to

$$\frac{nh}{2\pi}$$

In order to distinguish these different integers we will put the quantum number giving the moment of momentum of the light-emitting electron equal to k, that of the core of the atom equal to r, and that representing the vector sum of the two equal to j.

Before discussing the applications of the quantum numbers k, r, and j, it will be necessary to speak about series spectra. It is not probable that the electrons move in exact circular or elliptic orbits in the heavier atoms, since certainly in the case of the orbits of considerable eccentricity, the disturbing effect of the electrons in other orbits cause serious perturbations. But each electron will have a definite energy in any orbit, and as in the case of H and He^+ the frequency emitted when an electron drops from one orbit to another will be given approximately by

$$\nu = \frac{W_1 - W_2}{h}$$

where W_1 and W_2, are the energies of an electron in two orbits, if we neglect the effect on other electrons. We shall therefore confine our attention to the energy in the orbits, rather than to the orbits themselves.

Just as H and He^+ have well-defined series of lines, so there are series in the spectra of the heavier elements, although because of the greater complexity of the spectra, the different lines belonging to a series are not always easily located. Every line is due to the difference between two terms corresponding to two energy levels. The three types of series first recognized were called the Sharp, Principal, and Diffuse Series. These and others, now recognized, are characterized by the letters S, P, D, F, G, H, and so on. The energy levels from which electrons fall to give the S, P, D, series are called respectively the S, P, D, energy levels. Each energy level corresponds to the energy of an orbit of the light electron, and it is therefore characterized by an angular or

azimuthal quantum number k. For all S levels $k=1$, while n has a series of integral values. In tabular form,

$k = 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad \ldots\ldots$ etc.
S P D F G $\ldots\ldots$ etc.

When an electron passes from one energy level to another, k changes by ± 1, that is, electrons may fall from S-levels to P-levels, from P-levels to S- or D-levels, from D-levels to P- or F-levels, but not, for instance, from an F- or D-level to an S-level. This condition is most simply expressed by writing

$$\Delta k = \pm 1$$

The simplest notation for the different series is

$\nu = 1s - np,\ n = 2, 3, 4 \ldots\ldots$ Principal Series
$\nu = 2p - ns,\ n = 3, 4, 5 \ldots\ldots$ Sharp Series
$\nu = 2p - nd,\ n = 3, 4, 5 \ldots\ldots$ Diffuse Series
$\nu = 3d - nf,\ n = 4, 5, 6 \ldots\ldots$ Fundamental Series

The first of these equations means that the frequency of the lines in the Principal Series are given by electrons falling from the second, third, or fourth P-levels to the first or lowest S-level. It will be noted that $\Delta k = \pm 1$ for each series.

If as sometimes happens, for example, in the P-levels of sodium, each energy level is double, electrons in passing from these two P-levels to an S-level will give rise to lines of slightly different wave-length, and the Principal Series will consist of double lines. Also a given set of energy levels may be triple, quadruple, or of higher complexity, giving rise to series of triplets or quadruplets. We must therefore consider not merely series of single lines like the Balmer series, but series of doublets, triplets, quadruplets, and so on.

It is found that in all cases the S-energy-levels are single, as all energy levels are for $r = 1$. The P-levels are single for $r = 1$, double for $r = 2$ and triple for $r = 3$, but never more complex than triple. The D-levels increase in complexity from single for $r = 1$ to quintuple for $r = 5$, and so on, the complexity increasing as r increases along the sequence S, P, D, F, G$\ldots\ldots$

All of these facts agree excellently with the model suggested, the final moment of momentum of the entire atom being the vector sum of the moment of momentum of the light-producing electron, and the atomic core. But it is found here as in many other cases in modern physics, that the facts seem to be better satisfied if we allow for *half* quantum numbers, instead of always insisting on whole ones, although any change always involves a change of 0 or an integer in a quantum number.

Instead of the quantum numbers k, r, and j, it will be found better to use

$$K = k - \frac{1}{2}, \quad R = \frac{r}{2} \quad \text{and} \quad J = j + \frac{1}{2}$$

in odd systems;

$$J = j$$

in even systems. Table III shows how these new quantum numbers enter when the energy levels are single, double, or triple.

TABLE III. QUANTUM NUMBERS

TERM	SINGLE			DOUBLE					TRIPLE						
	S	P	D	S	P_1	P_2	D_1	D_2	S	P_1	P_2	P_3	D_1	D_2	D_3
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
J.....	½	3/2	5/2	1	2	1	3	2	3/2	5/2	3/2	½	7/2	5/2	3/2
K.....	½	3/2	5/2	½	3/2	3/2	5/2	5/2	½	3/2	3/2	3/2	5/2	5/2	5/2
R.....	½	½	½	1	1	1	1	1	3/2	3/2	3/2	3/2	3/2	3/2	3/2

Just as there is a selection principle for

$$\Delta k = \Delta K = \pm 1$$

so there is a selection principle for

$$j \text{ or } J, \ \Delta j = \Delta J = 0 \text{ or } \pm 1,$$

(with the limitation that the case

$$j_1 = 0 \text{ and } j_2 = 0 \text{ or } J_1 = 1/2 \text{ and } J_2 = 1/2$$

is excluded). We see the application of this rule in the transitions from triple D-levels to triple P-levels. Only the transitions

$$P_1 \longrightarrow D_1, \ P_1 \longrightarrow D_2, \ P_1 \longrightarrow D_3, \ P_2 \longrightarrow D_2, \ P_2 \longrightarrow D_3, \text{ and } P_3 \longrightarrow D_3$$

can occur since here

$$\Delta J = 0 \text{ or } \pm 1.$$

The transfers $P_2 \rightarrow D_1$, $P_3 \rightarrow D_1$, and $P_3 \rightarrow D_2$ are not found since here $\Delta J = 2$. Many laws discovered empirically respecting the limits of series, the difference in behaviour of doublets and triplets in the P-series and in the S- and D-series, common limits for different series, and combinations of terms, agree perfectly and inevitably with these theories of atomic structure and have been amply verified by observation.

The splitting of spectrum lines into many components in an electric field, the Stark effect, has been explained by applying quantum ideas to the type of atom we have been discussing. The mathematical theory is rather complicated, but the agreement with experiment is entirely satisfactory, in the case of H.

The splitting of spectrum lines into components in a magnetic field, the Zeeman effect, was explained by Lorentz for the simplest case, by assuming that the motion of any electron is modified in obvious ways by the field. It was soon found, however, that the majority of lines, instead of yielding the so-called normal triplet demanded by the Lorentz equations, gave patterns of much greater complexity. Thus a line caused by the passing from D_2 of a triplet level to P_2 of a triplet level gives rise to nine components, symmetrically distributed about the position of the original line; from the D_1 of a triplet level to P_1 of a triplet level, fifteen components. The explanation in terms of the quantum theory and the Rutherford atom is fairly simple, while the classical theory was comparatively helpless in such cases. The magnetic field modifies each energy level in accordance with quantum laws, giving several new levels distributed symmetrically about the original level. Instead of a single line when the electron now passes from the multiple upper level to the multiple lower level, a group of lines results.

When an atom is placed in a magnetic field which makes an angle with the axis of rotation of the atom, in accordance with the laws of gyrostatic action, the atom will rotate so that its axis

describes a cone. This motion of precession adds a small increment of energy to that which the atom already has. The component of the moment of momentum of the atom parallel to the field varies with the angle between the field and the axis of rotation of the atom, and this component M may be quantized in accordance with the equation

$$M = \frac{mh}{2\pi}.$$

If the total moment of momentum of the atom is quantized as

$$L = \frac{jh}{2\pi},$$

m may vary from $+j$ to $-j$. The changes in energy corresponding to these changes in m in both the initial and final orbits of the electron, give rise to new lines grouped around the position of the original line. As an electron passes from higher to lower energy levels, however, the changes are limited by the selection principle $\Delta m = 0$ or ± 1. If an even number of energy levels are created instead of the original one, m may have the values $-\frac{3}{2}$, $-\frac{1}{2}, \frac{1}{2}, \frac{3}{2}$. In a transition, it changes always by one unit. If the number of energy level is odd, m will vary thus: $-2, -1, 0, 1, 2 \ldots$. The number of different values of m will always equal $2J$.

As an electron passes from higher to lower energy levels, however, the possible transitions are limited by the selection principle. $\Delta m = 0$ or ± 1. When $\Delta m = 0$ the lines are polarized with the electric vector parallel to the magnetic field; when $\Delta m = \pm 1$, perpendicular to the field.

Ordinarily the energy levels for a light-emitting electron are disturbed so that the increments in frequency are proportional to $m.g$, where

$$g = \frac{x}{y}$$

and x and y are both integers, usually small. If $g = 1$, the separation of the resulting components is the same as that given by the classical theory, and this type is called the normal triplet.

But the normal triplet is by no means the most common type. If we let J, K, and R have the same meaning as in the discussion

of multiplets we may compute g for any energy level by the equation

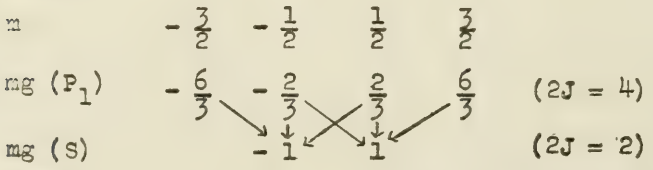
$$g = \frac{3}{2} + \frac{R^2 - K^2}{2(J^2 - 1/4)}.$$

To illustrate, let us compute the Zeeman pattern for the sodium lines 5896 and 5890. The line 5890 is given by the passage of an electron from P_1 to S and 5896 by the passage from P_2 to S. The values for R, K, J, and g are given in Table IV.

TABLE IV. DOUBLET SYSTEM

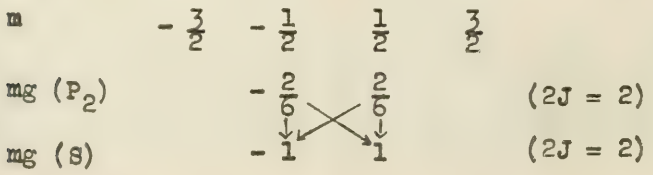
	S	P_1	P_2
(1)	(2)	(3)	(4)
R.....	3/2	3/2	3/2
K.....	1/2	3/2	3/2
J.....	1	2	1
g.....	2	1/3	2/3

For 5890



The combinations obtained for $\Delta m = 0$ or ± 1 are $\pm 1/3$, $3/3$, and $5/3$, showing that the Zeeman pattern for 5890 has six components, distributed symmetrically about the position of the original line at distances $1/3$, $3/3$, and $5/3$ of the separation of the normal triplet.

For 5896



These combinations give for $\Delta m = 0$ or ± 1, the fractions $\pm\frac{2}{3}$, $\pm\frac{1}{3}$. The Zeeman pattern for 5896 has therefore four components at distances $\frac{2}{3}$ and $\frac{1}{3}$, the separation of the normal triplet from the undisturbed line.

A similar calculation for a line caused by a passage from a disturbed D_2 level to a P_1 level in a triplet system is given in Table V.

TABLE V. TRIPLET SYSTEM

	D_2	P_1
R.....	3/2	3/2
K.....	5/2	3/2
J.....	5/2	5/2
g.....	7/6	3/2

m	-2	-1	0	1	2	
mg (D_2)	$-\frac{14}{6}$	$-\frac{7}{6}$	0	$\frac{7}{6}$	$\frac{14}{6}$	(2J = 5)
mg (P_1)	$-\frac{6}{2}$	$-\frac{3}{2}$	0	$\frac{3}{2}$	$\frac{6}{2}$	(2J = 5)

The combinations for $\Delta m = 0$ or ± 1 give $\pm\frac{8}{6}$, $\frac{7}{6}$, $\frac{6}{6}$, $\frac{5}{6}$, $\frac{4}{6}$, $\frac{1}{6}$, a Zeeman pattern of twelve lines.

In every case where the classification of the energy levels is known, that is, if *K*, *R*, and *J* are known, the Zeeman pattern can be computed, and in every instance the calculated and observed results agree. Conversely, if the Zeeman pattern is known with sufficient accuracy, the series classification of the line may be determined.

I realize that I have not touched on many points of great interest in modern spectroscopy, the identification of the complicated multiplets in the spectra of Mn, Cr, Ti, Va, Fe, and others. Nothing has been said about the separation and relative intensities of the different members of multiplets, "two-electron"

jumps, ionization, resonance potentials, band spectra, or the many laws of series first discovered empirically by Rydberg, Schuster, Ritz and others, and now found to fit so perfectly into the modern scheme. Enough has been said I hope, however, to show that spectroscopy has played an important part in developing our present ideas as to the structure of the atom.

THE SIZE AND SHAPE OF MOLECULES

EDWARD MACK
Ohio State University

Modern developments in physics and in chemistry have led us to believe in the actual existence of atoms and molecules. Chemists and physicists have, of course, employed the ideas of atom and molecule in their thinking and theorizing for a long time. It may fairly be said, however, that only within the past twenty-five years have certain experiments exhibiting the phenomena of diffusion, change of state, Brownian motion, and radioactivity, become definite and unambiguous evidence that particles of matter have a concrete, objective existence. In fact, today, we have quite definite information about the sizes and in some cases the shapes of these particles. Since atoms and molecules are far smaller than the shortest wave-length of light to which the human retina is sensitive, we shall certainly never be able to see them with the most powerful microscope. We must necessarily depend on inference and indirect methods for ideas about their size and shape, but some of these indirect methods are very convincing.

One method which has been used with much success is the X-ray examination of crystals. By letting a beam of X-rays fall on the surface of a crystal so that it can be reflected to a photographic film, it is possible from the nature of the photograph to determine the regular pattern arrangement of the atoms or molecules making up the crystal, and also to determine the distance between the centers of the various atoms and molecules. For example, it has been shown in this way that, in a diamond, the carbon atoms are

arranged so that lines joining their centers make tetrahedral angles (about 109°). The distance from center to center of adjacent carbon atoms is 1.54 Angstrom units (1-100,000,000 centimeter). It is not easy to describe this manner of arrangement, but on a model of the diamond "crystal lattice" it might readily be seen that the carbon atoms group themselves into six-membered hexagonal rings. Professor W. H. Bragg, a British physical chemist, has suggested that these hexagonal rings in the diamond crystal are identical with the benzene ring of the organic chemist. X-ray examination of crystals of naphthalene, anthracene and other aromatic organic substances containing benzene rings in their structure, seems to confirm Bragg's proposal.

Another method of getting at the size and shape of certain molecules is by the oil film method, developed largely by Dr. Irving Langmuir. When vegetable and animal oils spread on a water surface under the proper conditions, it can be shown that the oil film is just one molecule deep, and that the molecules in the film are standing on end, perpendicular to the water surface. The thickness of the film is therefore the same as the length of the molecule. Many measurements of the lengths of these long, stick-like oil molecules have recently been made.

Still another method of attack is by study of the viscosity and diffusion velocity of gases and vapors. In this case, it is the average cross-sectional area, or the collision area which a gaseous molecule presents to bombardment by other molecules, which is determined.

The results of the X-ray method, the oil film method, and the viscosity and diffusion methods, agree surprisingly well with one another. Such methods of study seem very hopeful and, when developed more fully, promise to give much more satisfactory conceptions than we now have about the mechanism of a great many phenomena such as solubility, surface tension, viscosity, evaporation, catalysis, and chemical reaction.

CRYSTALS AND CRYSTAL STRUCTURE

Wm. J. McCaughey
Ohio State University

As a solid substance separates from a liquid (a solution or melt) or condenses from a vapor (snow-flakes), it generally assumes the outward form of a regular geometric solid to which the name *crystal* has been applied. The crystal form and habit is so characteristic that many chemical compounds, especially the minerals, can be positively identified thereby. The crystal form is as characteristic of a compound as its composition or any other important physical property, such as specific gravity. The crystal form is, however, merely the outward manifestation of an internal structure, the symmetry expressed in the outward form of the crystal is the symmetry of the internal structure.

Certain facts relating to physical properties of solid substances lead one to believe that solid matter is discontinuous—it is composed of discrete particles (atoms and molecules) separated from each other by finite distances and arranged through space in a regular systematic grouping and, in a crystal, with parallel orientation. Almost all solid matter is crystallized, but the more massive types are formed of crystal aggregates intergrown complexly and not showing the ordinary outward form of crystals because of the interference by growth of neighboring crystals. Evidence for the systematic arrangement of atoms within the crystal is shown by the plane surfaces of the crystal faces distributed according to the laws of symmetry, by the cleavage of crystals (easy breaking of crystals in parallel planes parallel to certain crystal faces), and by the thermal conductivity, showing that while conductivity of heat varies in a crystal with the direction of heat transmission, in parallel directions it is always the same. The optical properties of crystals show the vectorial character of crystals—for instance, the velocity of light in a crystal, the rotation of plane of polarization, the rectifying property of crystals upon alternating currents, all these show equal intensity when measured along parallel or equivalent directions but vary

in intensity or character when the direction within the crystal is changed. The fact that the physical properties of a crystal in parallel direction is always constant, indicates a parallel orientation of the atoms in the internal structure of the crystal.

The molecules are arranged at the corners of simple lattices, or at centers of lattice faces, which because they extend in all three directions are called space lattices. Since the molecules are alike and have parallel orientation, the corresponding atoms of each molecule lie at the corners of lattices and a crystal then becomes a system of inter-penetrating space lattices, the atoms lying at the corners and fixing the dimensions of the lattice.

The faces on a crystal correspond to planes within the crystal on which there is a relatively high concentration or density of atom distribution. It is obvious that with a given number of atoms in a crystal, a high concentration of atoms on such plane surfaces within the crystal means a greater distance between adjacent parallel planes, and a small atomic distribution on such parallel planes means a shorter distance between the planes. The distribution and inclination of faces on a crystal must therefore be caused by the position of the atoms in the crystal structure, or by the position of the layers of atoms or plane surfaces on which the atoms are found, and by the distance these adjacent parallel planes are apart.

When homogeneous X-rays are directed at small angles upon a crystal face, it has been found that for certain critical angles there is a reflection of the X-rays, and for intermediate angles little or no reflection takes place. This critical condition for reflection is a property of the wave-length of the X-radiation (λ), of the angle incidence of the X-ray to the crystal face (θ), and of the distance (d) between adjacent parallel planes within the crystal corresponding to crystal faces. The relation is shown by the formula

$$n \lambda = 2d \sin \theta$$

and reflection takes places when value $2d \sin \theta$ equals λ or when n = a whole number. Since the wave-length of the X-ray is known and the inclination of the X-ray to the crystal face

can be measured, it is possible to determine "d," the actual distance between parallel planes of atoms, by the use of X-rays. This value, taken in conjunction with the density of the crystal and the symmetry of the crystal, enables one to determine, mostly by trial, a unique solution for the structure which will fit all the facts.

Both the character of the structure and the actual dimension have been worked out for many crystals. The results for crystals of inorganic compounds rarely show an aggregation in which a molecule can be recognized. In sodium chloride, for instance, each positive sodium ion (atom) is surrounded by six equidistant chlorine ions and conversely each chlorine ion is surrounded by six equidistant sodium ions. The electrostatic effect due to the position of the positive and negative ions make the structure permanent, and one on which work must be done to destroy the structure of crystal by solution or vaporization. The molecule seems to have lost much of its significance in the crystal structure and in many cases is not distinguishable as such.

PARENT-TEACHER ASSOCIATION

Mrs. C. M. Valentine, *Columbus,* Presiding

EDUCATIONAL SIGNIFICANCE OF THE PARENT-TEACHER MOVEMENT

Mrs. C. E. Kendel
State President, Parent-Teacher Association

The National Congress of Parents and Teachers has existed thirty years, and is recognized as one of the social agencies that work through the schools for the betterment of school and community. Its membership is increasing all the time and it is winning the interest and cooperation of educators all over the world.

The national president has just been appointed chairman of a committee which will arrange five sessions on parent-teacher work at the World Conference on Education in 1927. The local association reaches the mother who has no other contacts with club life or educational stimulus, and enables her through her membership in the state and national associations to get in touch with everything that is being done for the education of children.

The National Congress publishes the *Child Welfare Magazine* and many leaflets covering all types of programs and study clubs. The Ohio branch publishes *The Ohio Parent-Teacher* and distributes the national literature through its headquarters at the State Department of Education. These are the tools with which the leaders of the local groups carry on their work. The use of this specialized information on parent-teacher work builds up an educated membership which is able to carry on the fundamental idea of the organization through years of changing officers and workers. This continuity of purpose and principle is recognized by educators as the strongest factor in the growth of new organizations. We may in time achieve the dream of the founders—a Parent-Teacher Association in every school in the country.

HOME EDUCATION OF PRE-ADOLESCENT CHILDREN

GARRY C. MYERS
Cleveland School of Education

Interest in parent education in Cleveland is manifested by the fact that of the one hundred and thirty-six regularly registered students taking such courses, some are teachers and nurses, but nearly all are parents. Fifty-nine of these students are studying "Education of the Child of Pre-school Age" and seventy-seven are taking "Home Education of the Child from Six to Twelve." Interest in Cleveland in education for parenthood is typical, perhaps, of the interest throughout the country.

The best way to deal with problems of adolescence is to begin with children in the cradle. Certainly the several years before the teen-age is the time when parents must strive hard to promote in their children those attitudes and habits most useful in the junior and senior high-school ages.

Most of the emotional disturbances and exaggerations often associated with adolescent children appear between eight and twelve years. Parents who lose hold of their children then are helpless when these children reach the high-school age. Camaraderie between parents and children, particularly of the pre-adolescent age, offers probably the richest means for effectual control of their conduct. If our children genuinely esteem us, many of our habits become their habits, our wishes their wishes, and our ideals their ideals. They imitate us in proportion as they admire us. The greatest good some parents could do their children would be to teach those children to despise them. If our children think of us as highly as we should like them to do, our responsibilities become immeasurably large. To be a good parent is to be a good wishmaker. Parents, in order to develop camaraderie with children, must learn to relax and play. Home games are of tremendous moral value to teach children to be good losers and graceful winners, and to afford the ideal family companionship.

The dinner hour which has perhaps greatest possibilities for genuine social happiness in homes is the time when tension incident to weariness from the day's work is likely to be highest.

Thousands of children in well-to-do homes must eat their dinner to the tune of "Not so fast. Don't make such a noise with your soup. Keep your lips closed while you chew. Don't hold your fork that way. Not such big bites, dear. Sit up. Your hands are dirty. Use your napkin. How often have I told you not to put your elbows on the table?" Just when the girl of nine nears the climax of an incident to which the mother seems to be attending, she may be rudely interrupted with "You went to school with that soiled dress?" Or after the lad of twelve has begun an account of an experience that means all the world to him, the father may break in to inquire of mother if the load of coal had come. In order to make the dinner hour healthier and happier for our children, we should develop habits of reciting at the table the funny incidents in the day's experience.

Parents should read the newspaper comics. These funnies afford means for relaxation and conversation; they teach us much about human nature and to laugh at our own frailties. Perhaps five million American children, particularly pre-adolescent children, lie on their stomachs on the floor between six and eight o'clock morning and evening, reading funnies. Hence, the funny page is an institution no parent can ignore.

In this age as well as in adolescence, fear of folks is often overwhelming; fear of disapproval or ridicule is perhaps the child's most terrible dread. Parents by ridiculing their children's judgments and remarks, by belittling their interests and activities, build fears in those children and crush out personality instead of fostering it. Ease of expression ought to be our goal. We shall teach our children to be likeable as we guide them to develop habits with which to meet everyday experiences with the fewest fears and conflicts.

The home, better than the school, can face the child with problems he can solve and tasks which he can do well. With several children in a family, home activities can be rather easily adjusted to individual abilities by thinking parents. Wise parents see that their children plan for themselves and carry out those plans so as to get a joy from creation, that their children succeed often in their undertakings so as to get a thrill from success.

"Celebrate success" is a slogan every parent should learn. To approve and praise worthy children for specific achievements and good traits is, perhaps, the noblest art in which a parent can develop skills.

One of the hardest tasks of parents is to realize that their children are growing up. To the child of eight, the father may respond as if that child were four. Rarely is the average child from six to twelve allowed to think for himself, to answer for himself, or to exercise his own routine choosing. The foundation for developing responsibility as well as for reducing fears in a youngster, lies in his opportunities for normal mental exercise and self-expression.

HOME INFLUENCES IN THE DEVELOPMENT OF CHARACTER

EDWIN D. STARBUCK
Professor of Philosophy, University of Iowa

The delightful paper of Professor Myers contains nearly everything I had jotted down in my notes to present to you this morning. So far from feeling disconcerted by this coincidence I have a sense of relief. For I am set free to attempt a hazardous thing toward which I had been somewhat impelled, that is to describe some of the technical studies that are the ground work of the pedagogical faith of Professor Myers, which I most heartily share.

So I shall ask you to take a little trip with me around the psychological laboratory and enjoy some of the tools and toys we are playing with these years and see how the game of understanding human nature, including child nature, is turning out. Do not take it all too seriously as if you were students, for there is much of the technique you will not understand any more than you would the mechanics of the radio. Just put on your holiday attire as if you were going to the zoo.

Our little journey is not unlike a visit to the zoological garden for the reason that the first exhibit I shall show you is a horse—a beautiful young gelding, Clever Hans by name. This fine animal

has been trained by an old retired schoolteacher, Mr. Van Osten. The teacher, no longer bringing up children the way they should go, chose to try his hand at calling out the best possible knowledge in this colt. As the months passed the youngster grew in wisdom along with his stature until he can now do marvelous feats of intelligence and cunning. He can add numbers and tap out for you the answer with his foot without ever a mistake. He is able to extract square and cube roots. He can tell the day of the week on which the next fourth of July will fall and bring back in his teeth from a rack the correct card on which is written the name of the day. He knows music so well that if Mr. Van Osten touches several notes on the piano and sticks in a discordant tone, say *g*, this four-legged pupil brings back from the rack the corresponding card. The degree of the refinement of this animal's horse sense has been too staggering. Committees have come to explore and explode the bubble. They came, they saw, and were conquered. They returned in humility. It was really a case of intelligence. Finally, one Dr. Pfungst, of Frankfurt, less credulous, tried out his wit on the puzzling question. He insists that while Mr. Van Osten is setting his problems for the horse to work out, a screen shall be interposed between himself and his supposedly keen-minded pupil. Now the horse is helpless. You ask him to give you the sum of two numbers. He may begin tapping but will count out any number instead of the correct one. He brings back from the rack any word or none. This beautiful creature performing so many wonderful tricks is not wise at all. His mind is not infested with a single idea.

What is the secret then of his increasing power through the years, of appropriate response to his master's wishes? Clearly this, the sensitive eye of the horse has been responding with almost incredible delicacy to the features and to infinitesimal movements of body of the trainer. He has been responding *as if* he were guided by ideas. He is "clever," but not with his intelligence.

Dr. Pfungst has ideas. He builds a hypothesis and looks for the proof or disproof of it. He resorts to this clever device. He gets from the laboratory some instruments for magnifying the minutest movements of body of Mr. Van Osten and is able to show

by putting the microscope, so to say, upon the body movements of the teacher that appropriate physical signs attend his suggestion. When at a certain number, for example, the horse should stop tapping, there were always changes in the position of the teacher's body but too slight to be known by the master or to be indicated by the eye of the most critical observer.

To Clever Hans and his behavior hangs a tale of significance that is influencing our notions about the mind and how it acts. The consciousness of this horse, his organism, shall we call it, is almost incredibly sensitive. It can be taught to respond to the subtlest wish or idea of the trainer. Would it not be lucky if men who spend their days with horses knew that fact? It would make possible a fine fellowship between master and his brutes. I once drove, or "worked," as they say on the farm, a span of bays. We came ever to better understanding. I talked to them as I would to persons. They responded without line or rein. They would lean against the collar with a heavy load—"it's heavy, steady now"—exert every ounce of energy they had and let up only when told. I thought they knew. They probably never harbored a single idea. The result was the same. There sprang up a charming companionship enjoyed alike by all three "persons" concerned.

We care not so much for horses now. They are becoming an extinct species. But we do care about a species of two-legged animals that are being discovered in the world,—children existing in two grand divisions, the brats in the home and the urchins on the street. Perhaps these creatures are sensitive, too, just like horses. That is the point. It is so. A fine fellowship is possible there also. The moods, the attitudes, the behavior, the temper, of these youngsters is determined by that of the personalities that surround them, parents most of all. It does not make so much difference what wise notions one expresses to these sensitive creatures; it makes all the difference the attitudes of mind and heart that suffuse the ideas. Indeed, talk about concepts and ideals of behavior may be entirely absent. The real work of influencing personality goes on just the same. I have helped to bring up a gang of these animals, now scattered through the

teens and twenties, and I have never heard from any one of them, as I think back over it now, the concoction of the relating of a shady story or joke. I hardly believe they could. This is the first time it ever occurred to me to boast about it, and I trust the last. These youngsters certainly never have been "taught" anything about the evils of ugliness of thought. I would not insult their dignity nor their tastes by moralizing about such matters. They have simply grown up amongst those who feel withered with such supposed fun as if scorched by heat, or smothered as if by noxious gases. Human people are really akin racially to the equine folk; everyone now knows that (knowing involves thinking), just as he knows the earth is round. Moreover, their minds behave alike. This truth is now a matter of study and proof, not of dogmatic assertion. Dr. Pfungst chose, after studying Clever Hans, to make a horse of himself. He went into a school and asked children to play the game of agreeing upon a certain number while he was out of the room and holding it in mind after his return, while he should tap out the correct digit of which they were thinking. He could perform the trick correctly and used, in doing so doubtless, the device the horse had used, namely, his intuitions, or the feeling in his bones, as to when he ought to stop. I would convince you that most of what we are and do is the result of the subtle play upon sensitive organisms of these imperceptible but very real influences of which we are speaking.

In our promenade about the laboratory, let us not leave the animal section without a glance at the cages of white rats and sooty tern and noddy tern. These have been studied under controlled conditions by Professor J. B. Watson and other experimenters. The white rats are learning to run a maze in order to secure their food. A litter of white rats has been divided. Half of them have had their sensory apparatus of eyes and ears and nose removed. All are set to work to learn the maze. The ones bereft of their special senses learn the way to the food box with the same skill as do their normal relatives. That is to say, those deprived of the mechanisms through which animals are supposed to get their ideas, solve their problems quite as well.

Nor are the terns guided in their going or coming and their homing activities by sight. Eggs of a setting tern need only be removed a foot or two from their place in a poor nest on the sand in order that the mother shall feel quite lost about its location as she soars in from the feeding ground. She settles down on the very spot where the eggs had been. She huddles in vain trying to feel them under her wings. She wanders about, returns to the same spot, becomes restless again, and finally gives up the discovery of the nearby pair of eggs. Capture setting terns, mark them for identification, put them in the dark hold of a government cutter that zigzags here and there on its journey, keep them a day or two, and then release them. The records show that they find their way back to the nest in just the flying time, not of the circuitous route, but of the direct path home. All the evidences indicate that their "wisdom" is in their inner parts, and they have no concepts that guide them. It may turn out to be fact as well as poetry, that sentiment of William Cullen Bryant, about the leaning out and the confidence of the waterfowl being the secret of its migration, and also his pretty fancy that our guidance through the maze of life should be of the same kind.

We must take a few turns around the laboratory to watch studies that are being made upon human beings. Those we shall visit prove beyond doubt how sensitive is the mind to slight impressions. Here is an experiment going on by Bruckner (forget his name) which proves that stimuli too insignificant to be perceived consciously nevertheless produce their effect upon the mind. He discovers the threshold, as it is called, of touch; that is, just how many hundredths of a gram of pressure is required to awaken a perception of the presence of an object that is placed upon the skin. The threshold is found in several places. He has arranged his apparatus so that he can place down to measurable pressures at the same time on different parts of the skin, just heavy enough so that while both are below the threshold, their sum amounts to more than the threshold in either place. Since both are below the threshold, that is, imperceptible, then the result should be likewise imperceptible for it is zero plus zero;

but the sum is actually perceived, that is, the mind is summing nothings and getting something out of it. In other words, we are influenced by littles so slight that they cannot be noticed, or let us say it is possible to be affected by imperceptible perceptions. When we have wireless telegraphy and horseless carriages, why not have also imperceptible perceptions?

Let us now watch another of these interesting animals, the psychologist. He is performing what he considers a controlled set of observations, or an experiment, on the relation existing between one's ability to perceive clearly the difference between objects and his power to tell the nature of the difference. He has a person sit before a screen through an aperture in which pairs of objects differing by a known amount are exposed instantaneously through a slit in a falling shutter. The time of exposure can be changed at will and in definite amounts, and made so short that the person sitting before the screen can just tell in about eighty percent of instances *that* the pairs of objects differ, *when* they differ. Whenever the person says he is sure they are unlike he is required to tell the respects in which the objects differ. He stammers and stumbles. Although he is sure his judgments are correct, he can put his mental finger on the nature of the difference in only about twenty percent of the instances. He is sure of his judgment but cannot give the evidences therefor. The experimenter proves that the person has fairly reliable knowledge in general even though he is helpless to give the ground of his conviction. He knows more than he knows that he knows. Is this not in accordance with our usual experience? We trust a good deal to our first impressions, or our intuitions as we call them, of persons, works of art, and what we ought to do or refrain from doing. Perhaps these indefinable judgments or opinions or attitudes are fairly trustworthy sometimes, even though we cannot back them up with many facts or much evidence. There is danger in this inference. All we can safely say from our visit to this booth is that our judgments are definitely influenced by imperceivable factors of our experience.

Lest we be too ready, as people often are, to dogmatize about our secret wisdom and boast of the faithfulness of our intuitions,

we should glance at a cubby hole in the laboratory in which they are showing how our judgments are sometimes constantly distorted by nothings. Here are some persons playing with the different appearance of two equal lines. They have the lines a b <—a—> >—b—< The daggers pointing toward line (a) seem to shorten it, those pointing away from (b) appear to stretch it. Now they take the bare lines into a dark room and project imperceivable shadows against the lines to imitate the daggers. These shadows are known to be there although they cannot be detected by the observer. The shadows produce the illusion. Our wrong judgments are influenced by nothings just as our correct ones are. We dare not dogmatize. We are likely to be deceived. All we can rightfully claim is this: our consciousness, our clear notion of things, is at the mercy of the manifold infinitesimal elements of experience.

May we not visit another stall in which is being performed an experiment so simple and convincing that any child can understand it. My eleven-year-old daughter awhile ago brought from her physiology class and related this interesting story to my eager ears, quite innocent of the fact that I had been working at similar problems. Over here we see the picturesque old Professor Mosso working with a device which he calls a scientific cradle. It is a platform on which he has a person lying horizontally. By a delicately adjusted fulcrum he can keep the body in equilibrium but it will not stay so, for the blood is always changing its distribution about the body, more to the head now when the person lying there is thinking, feeling, or willing, more to the extremities when the mind of the person is inactive. So sensitive is the body of this person, that if Mr. Mosso asks him to do the simplest sum the head begins to fall; then with quiescence of mind and woolgathering, the feet begin to descend. He lets the person go to sleep; he makes a bit of noise, not sufficient to disturb the slumber. Even then, although the person sleeps on, the head begins to descend. All is still; the equilibrium is restored. Touch the hand ever so slightly. The slumber continues, but the body nevertheless responds to the touch. We know without doubt that this whole organism that we live with, learn with, love with, and hate

with, is almost incredibly sensitive. It is at the mercy of the infinite nothings that play upon it. This complex something we call our minds is as delicate as a thermopile or a photographic plate. It is being affected always by the outside world that suffuses it constantly with a vast variety and indefinite number of impressions. The mind or the organism is responsive, likewise, to "inner stimuli"; that is, to every idea or motive that pulses through it.

There are so many rooms about this great laboratory working on the facts of mental life that your feet would weary before we could visit them all. I shall ask you to step into one more. Here you find persons working with an interesting device called the psycho-galvanometer. It is an instrument with a finely suspended magnet that is free to swing when induced to do so by a change in the magnetic field near it. The inducing current may be so little that if the motion of the wing of a gnat could be translated into work units of this kind they would be indicated by the swing of the magnet. Now we know that with every mental act there is a change not only in the electric field that plays through the nerves but also in the magnetic field that thrills and throbs about over the surface of the skin. The apparatus is now arranged so that the poles of the magnet placed on the back and front of the hand can catch these changes in magnetic field and they can be measured by the degree of swing of the magnet. Now the experiment is on. The person doing it is mentioning stimulus words, one after another, to the person sitting there. You see that no word can be uttered, no matter how uninteresting it might be, like *tree*, or *desk*, or *book*, without causing a measurable bodily response. Now he mentions more exciting words like *tennis*, or *child*, or *love*, and the psycho-galvanometer shows a more vigorous response. The person being operated upon is sometimes aware of the thrill that goes through him in the presence of the more exciting words. He does not know, and would not believe it unless he saw the reading of this psychological microscope, that his entire organism reacts to every stimulus, no matter how insignificant.

Now is the day far spent when I cannot ask you to continue the journey around the zoo or the laboratory in spite your interest

and eager appetite. It is, as you see, a great workshop of knowledge about what the mind is and how it acts. I shall only ask you to gather about for a sermonette before you scatter and go your way.

All we have seen is but to make more certain and more usable the things you have known in your hearts already. The earliest years of a child's life are the precious ones for the development of personality. Before ideas begin to function, the child is being formed and pre-formed by every influence that surrounds it. You have helped pass on the notion that the first six years of a child's life are the fateful if not the fatal ones. Hold to that truth but think now more in terms of first days, weeks, and months, of his career rather than in terms of years. A good deal that we have attributed to heredity, bad luck, or the devil, in the child's life, is probably understandable and controllable. If Juke babies have nursed at the breast of Juke mothers, heard their harsh voices, and felt their rude hands; if they have smiled at the unseemly jokes and shrewd cunning of a Juke father; if they have tasted the flavor and felt the shiftlessness of a Juke home for some years, there is not magic enough in the world to transform them into cultivated souls.

Live with the children, play with them, plan with them, love and laugh and hope with them; for nothing can destroy the foundations that are being laid. Work hard to improve their surroundings with all that is best in art, in literature, in nature, in attractive personalities, and in the stories of man's achievement. The effect of all this is as inviolable and ineradicable as is the influence of a Juke home. The minds of the children are much like organisms that grow by what they feed upon. They are like sensitive instruments of music that give forth tones appropriate to the delicacy or hardness of the touch.

It is futile to talk to children over much about virtue or the virtues. It is waste of energy to try to change their ways through thoughts and arguments about goodness and righteousness. Goodness is contagious. It will not avail greatly to command children in a harsh voice to be kindly, nor to punish them for being discourteous to a brother or sister. They will forget the

advice and pass on the harshness and discourtesy to someone else even though it be a doll or a dog or a cat.

All this we are saying now is a very old truth. The surest possibility of influencing a child or an adult is from within. "As a man thinketh in his heart, so is he." "Out of the heart are the issues of life." This is true, for we have been seeing today that whatever is going on in one's thought or impulse is throbbing through his entire being.

And then we whip around our little circle; for we have seen that whatever goes on within the life is the result of the infinite influences that play upon the sensitive life. It is no vicious circle, for this law of interacting of inner and outer is continually going on. If we stop in the mid-whirl of it and ask where wisdom is to be found, it may come to us in such wise as it did to Socrates in Athens. When he and Phaedrus were about to return one day from an afternoon of friendly intercourse without the city walls, Socrates asked for a pause and a prayer before they should continue their journey homeward. The petition was this: "O, Pan and all you gods who dwell in this place, make me beautiful on the inner man." We have seen enough today to convince us that a prayer of that sort must find its answer in the sincerity of the desire through which it has been uttered. We are convinced such a longing must find its way through the deeper heart of Socrates and on through Phaedrus, and to the other young men of Athens, and that it must move on until the beauty within him has become a part of the Beauty of the world.

PHYSICAL EDUCATION

Men and Women

Lydia Clark, *Ohio State University*, Presiding

INDIVIDUAL GYMNASTICS FOR THE ELEMENTARY AND SECONDARY SCHOOLS

Ann E. Collins
Sunbeam Cripple School, Cleveland

That individual gymnastics have become important in our educational system is a fact now accepted by our foremost colleges, public- and private-school systems in the country. It is unquestionably a part of our aim in education to teach the child not only the physical development necessary to make him strong, healthy, and efficient, but also the proper use of that bodily strength in the activities of his everyday life. Such measures are constructive normally. When educators recognize the value of them as preventative means, there will be much less need for remedial work, and as a result we shall have a finer and stronger race.

In view of the fact that the term "individual gymnastics" might be misinterpreted, I shall briefly summarize the details included in such work. Functional posture is the most common part of corrective work, and is generally induced by such conditions as malnutrition, illness, poor eyesight, heart trouble, rapid growth, tonsils and adenoids, fatigue, improper seating, tight clothing, ill-fitting shoes, and so on. It is not only a duty to correct the poor posture resulting from the above-mentioned contributing factors, but to prevent poor posture by elimination of these conditions through education, medical corrections, and proper development through exercise.

Of equal importance is the other phase of the work which takes care of the orthopedic defects, that is, the abnormal conditions of the bones, joints, and skeletal muscle. Under orthopedic defects we find structural posture, infantile paralysis, spastic paralysis, tubercular bone, osteomyelitis, wry neck, flat feet, and many other deformities.

To correct functional posture with an individual, the teacher should determine if possible the underlying cause of the faulty posture and should take steps to eliminate the cause as well as to correct the posture. When the teacher has finally determined the cause, he should gain the child's interest in posture. This may be done by a simple explanation of the bodily mechanism.

Having gained the child's interest, the teacher's next step is a general development of the fundamental, postural muscles. This should be done carefully to prevent an exaggerated position and fatigue. Postural exercises should be taken easily and slowly at first and emphasized only after the desired position is understood. All exercises should be preceded by breathing exercises, with emphasis on the full-chest breathing. It is a common mistake for the child to unconsciously hold his breath in trying to stress his movements and great care must be taken to see that he breathes normally during the exercise.

Anterior posterior curves of the first, second, and third degree (B, C, D) are of primary importance in public-school work. The lateral curves should not be handled except by a well-trained person because of the danger of developing a compensatory curve, or of increasing rotation and flexibility of the single total curve through too strenuous or misdirected exercise. An increased lumbar curve is often the tendency, and exercises to insure against this possibility should be given with each lesson.

Since provision for taking care of orthopedic cases is not made in all places, the teacher in charge must do what he can to avoid accidents with these children. He should refer structural defects and abnormalities, however slight, to a physician and learn from him the diagnosis and degree of the defect. He should also obtain advice and recommendation for the extent the child may enter into physical activities. The teacher has no right to accept responsibility of this kind without a doctor's sanction.

In closing, let me remind you again of the importance of: first, preventing postural defects by teaching the children preventative posture exercises and removing contributory causes; second, correcting the defects already present, through individual gymnastics intelligently given; third, the teacher's responsibility in safeguarding those children who have orthopedic defects.

Let us hope that the time will soon come when every physical-education program will provide not only for the general activities of the normal child, but will include in its curriculum, some measures whose definite aim is the prevention of functional malpositions. With proper preventive and corrective general-posture work, children in the elementary schools will have such fundamental posture-training that there will be little need of it in the high schools. At present, however, numerous physical examinations show that the opposite is often the case. This should sound a warning to our normal schools and colleges to emphasize the importance of this work to their graduating teachers.

PROFESSIONAL TRAINING IN THE EDUCATION OF TEACHERS OF PHYSICAL EDUCATION

J. F. Williams
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The training of teachers, supervisors, and directors of physical education should include the theoretical considerations and practical activities required by present needs, interpreted in terms of individual and social necessities as well as of physical limitations in plant and equipment. Such training should seek constantly to evaluate the worth of this training with reference to modern social needs and modern efforts to meet these needs, particularly the efforts of modern education.

In effect, the professional training of physical educators corresponds to the practice of physical education. In both, there is a common factor. Each has reflected the ideas of the time and place. So today, professional training in those institutions sensitive to prevailing thought, present problems, and possible future demands, reflects ideas of the time and place. In other institutions committed by tradition or custom to certain ideas, professional training reflects ideas of another period and prepares for problems of another order than those pressing upon us today.

The early efforts in professional training in America arose out of two motives; they are illustrative of two bases. To my way of thinking, both bases are wrong, and the reasons for this belief are revealed in an analysis of the bases themselves.

One view conceived physical education as a corrective, rehabilitating, remedial agency. The great battle for free public schools in America culminated in victory for those supporting free public education. But coming at a time of stupendous industrial and social reorganization of society, there appeared to educators in the seventh and eighth decades of the nineteenth century a need for physical development in school children. Uncritical in their judgment, these educators failed to understand the character of the problem and never appreciated the relatedness of swiftly moving social changes. To them, physical education was demanded by the exigencies of schoolkeeping, and so at the famous physical-training conference in Boston in 1889, educators set the cast of physical education for a generation.

In effect, this conference did more to retard a rational and scientific development of physical education than can ever be fully estimated. The experts of physical training assembled their own special systems, and displayed them as manufacturers today display their products in expositions. The ones with the best display, the best salesmen, and the most plausible claims, won the day. The school men said in substance, "We want something that can be carried on in the classrooms, because activities carried on outside the school building are not educational." The experts replied, "We have just what you want." The school men said, "The physical education you offer must not require trained teachers." The experts acquiesced, "Splendid, our samples can be taught by anyone." The school men said, "It must not require apparatus." The experts agreed with the comforting note, "Exactly, our program requires nothing." And so today, the body of physical education in the schools consists of exercises that are taught in the classroom, by an untrained teacher, and require nothing but a manual and a monthly visitor, called a supervisor.

This situation developed because of the view that physical education was a corrective, rehabilitating, remedial agency. It was the logical view of school men, for they were then fully caught in the dualism of mind and body. To them, the child was in school for training the mind. The body that happened to come along was an inconvenience; it was tolerated, and it should be

corrected if it became weak, crooked, or useless. Even today there are teachers, principals, and superintendents, who glibly speak of the unity of mind and body, and go so far as to cite the psychological evidence for the unity of the person, but fail utterly to plan for the physical aspects of the child whose mind so completely captures their attention.

This view then fashioned greatly the professional training of physical educators in America. Another view also has weight. The nationalistic systems of physical education perpetuated traditionally the practices of the fatherlands from which they came. These systems were essentially militaristic. German and Swedish gymnastics in origin, scope, and development, served military procedure and amplified military demands. Reflecting the ideas of the time and place, they were uncritically adopted in America, where the political and social ideals of the place were of a far different order.

Briefly, then, these two bases have shaped professional training of physical education in America. They may be termed the corrective and the militaristic bases.

If these bases appear unwarranted, what then *are* the bases for professional training in physical education? They may be stated as follows: (1) physical education for organic development; (2) for maintenance of organic health; (3) for enjoyment and leisure-time education; (4) for social and moral objectives, social and moral education. It is important to examine these bases in some detail.

Physical education for organic development.—Aside from the force of heredity, physical education is alone the only means for the development of organic power, and this agency is subject to a stern taskmaster. It must follow the laws of nature. It is not necessary to review the biological story here, but there are times and activities suited to organic development. No esoteric collection of movements, no curious array of drill forms may appeal from the final arbitrament of Nature. We ignore this discipline with peril.

Some question if the rise in mortality from the cardio-vascular-renal diseases of middle life is not an expression of our neglect of organic development in childhood. It may be that the salvage

of biologically poor material through infant welfare work is in part an explanation of early senescence, and there may be other explanations. But the responsibility for normal organic development remains upon us. It should be clear that progression from hands on hips to hands on shoulders from the first to the fourth grade, typical of certain city syllabi, clearly violates this demand.

Physical education for maintenance of organic health.—The maintenance of organic health is not a developmental, corrective, nor militaristic matter. It is clearly an educational problem. One cannot build up in youth a healthy body to last for the whole of life. Health is not made like a bank account or a house. It flows from living in a certain way. Factors other than physical education enter into its maintenance, but physical activity has its contribution. This service, however, is likely to be permanent and most useful, as an activity that goes on throughout life. Hence, the necessity of understanding the educational aspect of this basis,—the need for learning in schooldays activities that will carry on through life.

Physical education for enjoyment and leisure-time education.—Professional training of physical educators has reflected corrective and militaristic views, colored somewhat by seventeenth century Puritanism and eighteenth century French Revolution. This view of life said: "Life is hard. We must bear the woes of this world and look for happiness in the world to come." Such a doctrine was especially useful with the masses, for it helped kings, ecclesiastical monarchs, and the ruling classes to perpetuate their systems. The modern world in America, however, is seeking in all fields of intellectual and spiritual enterprise another interpretation of life. Whether from its Galsworthy with his slogan of maximum health and happiness to the square mile, or Kilpatrick, pleading for the constituents of the good life, a different note is everywhere being struck.

Physical education is not to be viewed as a dull, drab, muscle-developing, joint-correcting, perspiration-producing series of exercises, but a way of life, a body of skills, facilities, and pleasurable and wholesome activities. Such a view holds up its head and is not afraid of the captious criticism bound to be thrust at it. Physical education is for enjoyment; for life, abundant, rich, overflowing with zest, play, and joy.

Thus, leading in activities of games, sports, and dancing, physical education promises worthwhile contribution to the problems of leisure-time education. Whether one likes the idea or not, it is probably true that the great majority of persons prefer to spend leisure time in pursuit of physical activities and would do so if the skills were known and the facilities available. Leisure-time education must seriously consider physical education, and professional training must evaluate the contributions to be made by physical education to the solution of this problem.

Physical education for social and moral objectives.—After the very convincing discussion of social and moral objectives by William H. Kilpatrick in the March issue of the *American Physical Education Review*, which contains the reprint of the original article in the *Teachers College Record*, it would be fruitless repetition to do more than state the basis and call attention to Kilpatrick's discussion.

It has seemed important to discuss these older and these newer bases as a foundation for a more detailed presentation of the problem of professional training for physical educators. From the views presented the following theses are outlined:

I. Professional training of physical educators should be given in institutions that provide an educational atmosphere. The problems today are not militaristic, nor primarily corrective, but essentially educational. A recent paper by Judd, at the 1925 meeting of the National Education Association, severely criticizes the narrow, specialist attitude of physical educators. His strictures are not applied to all, but his point is well taken for some teachers. In some schools of physical education, the students begin and end the day's schedule in a gymnastic costume, with physical education courses throughout. They revolve in a little world of their own, and hence learn little of the significance of their work in its relation to the purpose of the school. Since the business of physical education is primarily educational, professional training should proceed hand in hand with guides, principles, and methods of general education. We criticise school men for neglecting the physical aspects of the child's life, and rightly so, at times. By the same token we must be zealous not to look upon our program as merely developmental or corrective of physical components.

The private normal school of physical education has served a useful purpose in the pioneer work of training teachers, but by its very nature it tends to train a narrow specialist, because it is unable to keep in touch with the thought, spirit, and content of educational method, principles, and goals. The private school for professional preparation of teachers cannot afford an adequate staff to train teachers for the larger educational needs of the school. Its staff is composed mainly of experts in technical and professional courses, occasionally supplemented with lecturers from the outside who give a varying amount of time to discussion of education. These lecturers, at best, are worth very little. Library facilities are lacking for adequate preparation and assignments, the professional standards are invariably not high, and the students themselves feel that such lectures are extra and unimportant. This sort of piece-work in education represents a begging of the fundamental question and constitutes only a tardy and partial answer to the demand that physical-education teachers know education.

The private normal school of physical education cannot by its very nature offer an educational atmosphere. With all the students engaged in the study of physical education, they have no opportunity for contacts with students of other subjects; hence, they fail to secure criticism, discussion, and group conferences so essential to growth in professional training. The recent comment of a principal of a New York high school is illuminating. She said, "Why is it that teachers of physical education have no interests outside the gymnasium and are unable to contribute to discussions in staff meetings when we consider fundamental problems of education in the high school?" The answer, of course, is that teachers of physical education trained only in that subject in a school with no general education activities, can know nothing but physical education. It is undoubtedly true, also, that teachers so trained cannot know physical education best because they lack a proper perspective.

The state normal school that offers professional training in physical education too frequently teaches a method of procedure without an adequate knowledge of principles, aims, and the most useful subject-matter. Favorable influences are at work to correct this, but where it exists its limitations should be known.

The teacher who knows how to teach an exercise, but not why or when, may be considered more of a liability than an asset. That he may later acquire an education and become an intelligent teacher is to beg the question. It would appear that knowledge of a wide range of useful materials, principles, and aims, is more important than a method. The teacher who has a natural ability at all can develop his own method.

Professional training in college and university should be in intimate relationship with the school or faculty of education. Every effort should be made to avoid a "specialist's attitude." The problems of education should be related to the problems of modern social life and solved by a scientific study of society. The courses in educational psychology, school administration, philosophy of education, and educational sociology, are important. The fundamental biological sciences should be the basis for all the applied technical courses.

II. Professional training in physical education for high-school and college positions should lead to a college undergraduate degree, and in some instances to the Master's degree. This thesis is supported by the tendency in school systems to raise standards and by the movement to change state normal schools into state teachers' colleges. The degrees of B. P. E., B. S. P. E., G. G., and others of a two- and three-year program are not standard and cannot be classed as college degrees. The wail of physical educators for recognition and better professional opportunities, should, therefore, be heard in relation to the partial, narrow, and specialist training of many of its teachers. One of the nation's best state supervisors of physical education recently lamented the woeful lack of ordinary culture in dress, manner, and speech of many teachers of physical education. His plea should be heard.

It is futile for us to bemoan the lack of recognition for our work, and the slight given in school and college faculties in committee and other assignments. When we are prepared to take our place in educational groups not by might but by right of fitness to contribute to common problems, then the discrimination regretted at times will disappear. Physical educators should be expected to have some information about and some judgment of the Dalton plan, the project method, the Sterling-Towner law, the theory of

interest, the transfer of training, intrinsic and extrinsic subject-matter, the conditioned reflex, reciprocal innervation, theories of fundamental to accessory, the history of the battle for free schools in America, the philosophy of naturalism, and many other everyday discussions in education. It is not sufficient for one to know that exercises produce perspiration.

III. Professional training in physical education for the higher levels, such as supervisorships, directorships, professorships, should be through the doctorate in education, Ph. D., with a major in physical education, rather than through the doctor of medicine, M. D., because:

1. The problems in physical education twenty years ago were considered to be essentially corrective; the problems today are essentially educational.
2. The older organization required the professor of physical education to serve also as college physician; today the health service in the college is increasingly assigned to a staff of physicians giving full time to health service.
3. The demands of modern medicine are so great and the educational problems of physical education so pressing, that it is inadvisable to have a combined position.
4. The feasibility of the Ph. D. for the higher positions in the field is indicated by numerous instances where this training is considered acceptable.
5. The doctor of medicine who knows neither physical education nor education, or the doctor who does not know education is greatly handicapped. Numerous false steps in physical education can be attributed to those who thought that a medical degree gave them a right to speak concerning matters of which they were really quite uninformed.
6. The Ph. D. majoring in physical education not only must learn modern educational method, procedures, and goals, but he must also produce in his major field a study that keeps him in touch with his professional problems.

In conclusion, then, professional training in physical education should forsake the inadequate corrective and militaristic emphasis and should face the educational problems that express modern social organization. Private normal schools that have served their day as pioneers should gradually be replaced in this field, exactly as they have been in the training of general teachers and certain special teachers (as in home economics). University and college departments should throw out the remnants of worn out traditional procedures and continue to educate teachers, supervisors, and directors who will be well educated, well mannered, well spoken representatives of fine, wholesome, joyous living.

SYMPOSIUM: THE MOST IMPORTANT ADVANCE MADE IN OUR PROGRAM DURING THE PAST FIVE YEARS AND OUR HOPES FOR THE FUTURE

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Growth in the use of athletic games in our public-school physical-education program represents to me the most important advance made in the past five years. This growth has not been large and sweeping, but it represents an important step in the right direction of attempting to provide every boy and girl with the opportunity to secure benefits that are obtained from athletic games—benefits difficult to secure in other physical-education activities.

Physical education should do more than provide wholesome exercise. It should teach proper exercise habits and habit-fixing formulas, which will carry over into later life. Almost everyone knows that wholesome exercise is an essential of health, but how many have the habit of exercise so well fixed, that they take the exercise they need for health? Physical education, then, which becomes responsible for establishing the proper exercise habits of everyone in school, establishes them best through athletic games that will carry over. Interschool athletics—football, basketball, and track, do not qualify in this respect, as they are only for the few and do not carry over. Baseball, volleyball, handball, tennis, swimming, and golf, do meet the requirements of physical education and should be made prominent games of the department.

The establishment of exercise habits rests squarely on the shoulders of the physical-education department and training in the proper games will go far to establish it permanently in the individual.

Proper use of leisure-time exercise does much to solve the problem of juvenile delinquency. Physical education through games not only fixes the exercise habit more firmly in the individual, but it provides one of the best forms of character training possible. The playground is the laboratory of moral training, not

only for the physical-education department, but for the whole school. From participation in athletic games, the child develops unselfishness, honesty, loyalty, courage, cooperation, good sportsmanship, and many other beneficial traits of character that make him more efficient in school and in later life.

If the greatest benefits are to be obtained in the future from training in athletic games, the program must be made extensive. The object must be "every boy and every girl in the game." Communities must realize the importance of wholesome recreation during leisure hours, so that ample opportunities may be given to such recreations as tennis, baseball, handball, volleyball, swimming, golf, camping, hiking, and evening athletic activities.

THE MOST IMPORTANT ADVANCE MADE IN OUR PROGRAM DURING THE PAST FIVE YEARS AND OUR HOPES FOR THE FUTURE

(2) John Dambach
Toledo Public Schools

In complying with the request to contribute to this discussion, I shall limit my topic to one important phase with the hope that no previous speaker will have covered my points and that I shall not steal any of the following speaker's thunder. I shall discuss the supervision of physical education.

This nation is fast adjusting to peace. Wealth is increasing and being diffused rapidly. Application is being made of new discoveries. We are gaining efficiency in all phases of industrial life and eliminating waste. The advent of prohibition, the decrease of working hours, and the increase of leisure time, have raised standards of living. The philosophy of the nation is turning to peace, prosperity, and physical well-being.

Some thirty states have passed legislative measures for compulsory physical education in the elementary and secondary schools. The sight of the nation's man-power during the war, written in figures that spoke of physical wrecks, brought this about. Immediately arose a demand for special teachers trained in physical education. The burden of this state-wide program,

however, fell on the classroom teachers in the elementary schools. They were not trained to teach the subject and were already overworked. Naturally the specialists were made supervisors for the purpose of aiding the teachers. It is as far a cry for a special teacher to become a competent supervisor as it is for a classroom teacher to become a teacher of physical education. While unskilled supervisor and teacher have done well, they both need help.

Supervision is the keynote for putting across the tremendous task asked of us by the various states, since the classroom teachers are carrying the load. Unless teachers' colleges and normal schools can provide trained supervisors with thorough knowledge of the science of supervision and sympathy for the classroom teacher, all the good brought about by the after-war reaction will be done in mediocre fashion.

We are getting in stride to carry on the task set us, for colleges have felt the need and are adding courses for the training of supervisors in physical education. Physical education conventions have called meetings of supervisors. Such a meeting was held at the recent Mid-West Convention at Minneapolis. A body of knowledge on the supervision of physical education is being developed which should soon be put into book form. Articles on the supervision of physical education appear in educational journals and magazines from time to time. Several cities have worked out standards to be used by supervisors in judging teachers. The most outstanding of these is the system used in Detroit.

Too many graduates of the normal schools expect to do straight teaching of physical education and, when assigned the task of supervising, fail to grasp its significance. The tact, vision, sympathy, leadership, enthusiasm, and understanding of educational principles necessary to make a classroom teacher even want to improve in the thing that is forced upon her, is almost too much to ask of a young graduate, but if he does not begin in college to think in terms of supervising rather than special teaching, he will do so only by hard experience while on the job.

Legislatures have passed bills appropriating money to keep school children physically fit. The job is ours, and to do it well

means to win over the classroom teacher so that she does the work willingly and effectively as a daily routine. A supervisor, in reality only a special teacher who reports at a school once in a month or six weeks, is not enough. These people must think in terms of teacher improvement, of sympathetic guidance and help, of constructive criticism and self-improvement, of advising summer schools for teachers and attending summer schools themselves, of teacher-group meetings and lesson demonstrations. They must keep always in mind the improvement of the teaching act.

Serious thinking along this line has become more evident in the last five years, and I doubt not that we shall have more and wiser supervision. Our hope for the future, then, is that teachers all along the line learn of the importance of physical education in the elementary schools through supervisors supplied by the training schools to meet the needs.

THE MOST IMPORTANT ADVANCE MADE ON OUR PROGRAM DURING THE PAST FIVE YEARS AND OUR HOPES FOR THE FUTURE

(3) R. R. Burdette
Edward Lee McClain High School, Greenfield

To properly present a record of the advance made in our physical-education program the past five years it is necessary to give you a brief idea of the work as formerly carried on. Five years ago the facilities of the plant consisted of one gymnasium in which classes were conducted for a limited number of high-school pupils. As one instructor was employed who devoted part of his time to classroom teaching, the gymnasium was used only a portion of the day. No definite program for the conduct of the department was outlined and the work was carried on in haphazard fashion.

Today, instead of one part-time teacher, a corps of five instructors is required to properly handle the activities of our enlarged physical-education program. The facilities of the plant now include:

1. High-school gymnasium (80 x 65)
2. Elementary gymnasium (90 x 65)
3. Two tiled open-air gymnasiums (90 x 60)
4. Playroom
5. Swimming pool (32 x 75)
6. Nurse's office and clinic

Each of the fifteen hundred pupils, from the kindergarten to high-school seniors, is required to take at least one period of physical exercise each day. This record of which we are very proud is equalled by very few, if any, schools in the state of Ohio.

The playroom is in charge of a woman who conducts games, story-telling hours, playlets, and other things suitable for the kindergarten, first-, and second-year pupils.

Elementary pupils from the third to the sixth grades are instructed by a man and a woman. Their work consists of formal marching, games, and calisthenics. Junior and senior high-school pupils have advanced marching, calisthenics, and advanced games under the direction of a man for the boys and a woman for the girls. Special work given these pupils consists of boxing, wrestling, handball, tennis, folk and aesthetic dancing. Each pupil is taught to swim, and for the more advanced swimmers, speed swimming, fancy diving, and a course in life-saving methods are provided.

In addition to the regular classwork, football, basketball, baseball, track, tennis, and swimming teams are organized for competition with neighboring schools. For those who are not sufficiently coordinated for the regular teams, a comprehensive intramural program is carried out. Seventy-five percent of the pupils in the school were given an opportunity to compete with one another in this way last year.

A full-time graduate nurse gives a thorough physical examination to each child each year. She conducts health and dental clinics, health plays and pageants, and carries on a general health educational program in addition to teaching classes in first aid and nursing. A milk diet for under-nourished children is also maintained by the health nurse.

Our plans for the future call for a new athletic field, land for which has been purchased at a cost of $110,000. The new plant when completed will contain a concrete stadium with seating

capacity for three thousand persons, a football field, a baseball diamond, a quarter-mile running track, six tennis courts, three handball courts, and two outdoor basketball courts. With this addition, we shall have one of the finest departments to be found anywhere and can offer to the children of Greenfield an opportunity for healthful recreation that is generally offered only in the large cities.

THE MOST IMPORTANT ADVANCE MADE IN OUR PROGRAM DURING THE PAST FIVE YEARS AND OUR HOPES FOR THE FUTURE

(4) Floyd Rowe
Cleveland Public Schools

We are learning in education that the child is a unit and we cannot separate him into portions and educate those portions. For example, you must all agree that it is nearly impossible to educate the mind of a child if he is suffering from acute tonsilitis; the first step in educating this particular child is to cure the tonsilitis. Now this is not all that is implied by the opening statement that the child is a unit and must be considered as one.

We cannot educate the emotions of a child without affecting his physique and his mentality. Neither can we educate his physique without affecting his emotions and his mentality. Therefore, the child must be considered as a unit; in other words, as an *individual*. After all, it is *individuals*, be they teachers or pupils, who really count. Successful teaching is always an individual matter. As you look back over your school life, how many of your teachers stand out distinctly as individuals? Not many of them, are there? Personally, I remember three—a sixth-grade teacher, a high-school principal, and a university professor. In addition to these three teachers, one other person stands out —a man in a newspaper office who taught honesty and the valuable lesson of abstinence and right living.

The very foundation of all education is the individual. His receptive ability and interest are the bedrock upon which education for him is founded. Any one of the various definitions may

be taken, but the alpha, and for that matter, the omega, of all education depends upon the individual, his capacities, and his inclinations or interests. Don't misunderstand me. I am not one of those who believe that our program of physical education should be based on the desires of the child alone. We cannot entirely trust the child's desires in matters of exercise or education; our program must, nevertheless, be based on individual needs and interests.

In general education there is an effort to get at individual differences by means of the X Y Z grouping. As yet we do not know how successful this method will be. It is, however, a confession of belief in individual differences and an attempt to treat individuals in less diverse groups.

We, in physical education, can measure the individual differences of our pupils much more accurately than can our associates in the traditional academic branches of education. We can measure our values in tenths of seconds, in fractions of an inch, and we can say with a certainty which boy or girl of a given group can run fifty yards the quickest or throw the basketball with the greatest accuracy.

To begin with, then, we can measure individual capacity or ability in one of our fields accurately. We can further state wherein each individual is strong or weak, and, to a great degree, why. Of course, those persons directing academic endeavors can detect the strength and weakness of their pupils, but can they tell the why of it? Personally, I doubt it very much. To illustrate, we try a boy out in a 50-yard dash. We say that he swings his arms across his body, that he doesn't start properly, too large an initial step, and so on. He is tried out in history or mathematics. Can his teacher tell him why he fails? Mistakes in operation can be corrected, but can any one say that such mistakes were made because of a specific reason? When this can be done as well in academic life as in physical life, I predict great changes in educational procedure.

Passing on, then, to the matter of interest in our branch of education as opposed to the interest in the traditional branches, again there is no comparison, in my estimation. Granted the

same intelligence and training in the gymnasium that we find in the classroom, we can arouse and maintain an interest in our physical program which has not been equalled by any other branch of education. This statement is made with a full understanding of the many controversial points raised. Our program, however, makes possible a flexibility in our daily work whereby every student in the group can express some endeavor wherein he or she may excell. Because this diversity of program is not possible elsewhere, the opportunity to arouse and maintain the interests of the members of the group is not so great in other classes.

To conclude then, we in physical education, have an opportunity to work with individuals, to arouse and maintain their interest in accomplishments, which does not present itself in so large a degree to our associates in the strictly academic field. In my estimation the important—the most important development in our field is—the opportunity for measurement and development of individual capacities for physical achievement, and the arousing and maintaining of a high degree of individual interest in this development as individuals and as groups, by means of a diverse program that is rich in material, suitable to individual needs and possible of translation to group needs and growth by means of contests between the individuals in the groups, and between organized groups under our immediate control.

THE MOST IMPORTANT ADVANCE MADE IN OUR PROGRAM DURING THE PAST FIVE YEARS AND OUR HOPES FOR THE FUTURE

(5) George B. Kirk
Cuyahoga Falls High School

After a careful consideration of the various phases of physical education and of the data at hand, I have been able to draw certain conclusions that are helpful in determining the general trend of physical education. Before making my statement I wish to call attention to the history of general education in connection with physical education. Investigation shows that

physical education along with many other important phases of home life was formerly taken care of in the home. The school was not responsible for health, morals, manners, and the many things which make up a health program, but taught book-learning. As civilization became more complex, these activities have been wished on the school until it has been made to feel its burdensome responsibilities. Our curriculum has been revised and specially trained teachers secured to take charge of all the duties we have assumed from the home. This brings us to the question of objectives in physical education. They have been stated as follows:

1. The immediate objectives in the organization and leadership of child life as expressed in big muscle activities.
2. The remote objectives in adult social adjustment and efficiency.
3. The objectives in development, or changes in capacities, necessary to realize the adjustment.
4. The objectives in social standards as applied to the activities, the development, and adjustment.
5. The objective in the control of health conditions.

With these objectives in mind, the school has gone about absorbed with the new responsibilities, thinking that nothing less than success can result. The aim of physical education is not only to create a desire for physical fitness but to realize it for every individual. The physical-education programs vary just as the ideas of administrators vary. We have all agreed that physical training is necessary, and most of the states have established physical education as a required subject. This bit of legislation has been so effective that the need is discussed only from the standpoint of the content of the program. We have introduced both formal and informal systems, and experience shows that each is essential. From the search for a suitable combination our intramural program originated. The intramural program has been, in my experience, the greatest stimulus for physical-education work. Nothing so far has so completely satisfied the aims of physical education; it is elastic, inclusive, and resourceful. It stimulates the boy and girl to accept physical education and practice the lessons through life. We conclude from the moral, mental, progressive, physical, and economic standpoints, that the intramural program has been the most important advance made in our program in the last five years.

Looking to the future, we must conclude that, by the fruit of our labor which has been the establishment of a good program, success is at hand. With the intramural program installed in every college and school, we shall soon have created an environment which will direct our future actions along the lines of physical welfare. We are looking forward to the boys and girls who have been properly taught, to carry over into later life, practices which they have learned. My hope for the future is that everyone may heed the lessons exemplified through physical education and so become a good clean citizen.

THE MOST IMPORTANT ADVANCE MADE IN OUR PROGRAM DURING THE PAST FIVE YEARS AND OUR HOPES FOR THE FUTURE

(6) A. F. Roush
Superintendent, Ross Centralized Schools, Jamestown

The most important advance in our progress seems to me to be the fact that all new school plants now being constructed provide ample facilities for physical education. We shall reap much good by the proper use of such plants. Physical education is not an inter-school contest for the few who need it least, but it is for every boy and girl in a school. Athletics should be a by-product of physical education. Entirely too much stress has been placed on winning teams which represent only a small percent of the school, but in spite of the past, I believe we are growing.

What pupils need is corrective exercise and supervised play where great lessons of life may be taught. One of the strongest teachers of character in a school should be the physical-education teacher because the child is, in the excitement of the game, more nearly himself. To me, this is the opportune time to teach him great truths of life. If these things are not taught, physical education has gone amiss.

Physical education is so recent a development that many schools have no suitable place to conduct the work, and this fact

is the phase I wish to speak of. If your community can be led to see the benefit of physical education, it will proceed at once to see that it is provided. The surest way to arouse interest in the parents is through the boys and girls. I might enumerate a number of don'ts, but I should rather speak of things to do, because each community has a different situation.

Pardon me for relating our own case of Ross Township, a centralized school in Greene County, Ohio. It is an agricultural township with a tax duplicate of 2¼ million and 260 pupils enrolled. The school building was adequate for all purposes except physical education. Ross Township has no men of great wealth, but the people, though of many religious beliefs, are a unit in school and community projects.

We now have a new building of frame, 60x90 feet with a playing floor 42x72. It has a maple floor, separate heating plant, dressing rooms, and a seating capacity for 800 people. The building cost $7,000, besides donated work. The project has never been voted upon, and the money was raised by free-will donations. Fourteen men who financed the project, agreed to give a certain amount each year for five years and all signed a note to secure the loan. To the total note of $4,000, the net proceeds from games are to be applied from year to year. About $800 was cleared this year. The schoolboys hauled 150 yards of gravel four miles, and the equivalent of 200 days' work for one man was donated free. Outside of cement and a man with a concrete mixer, the foundation cost little. A building committee of three men was appointed with full power to proceed. Plans were approved by the state building commission.

The project has succeeded financially for it has paid over eleven percent of the money invested. It has caused no ill feeling, inasmuch as last November, while the building was being constructed, the 3-mill levy was voted for five years with a ratio of 4 to 1 for the levy. This is an ideal way for communities to meet their needs for physical education, and it is hoped that many communities will do their utmost to secure such cooperation.

SPORTS FOR WOMEN

Helen Coops
University of Cincinnati

The development of sports for women has reached a most critical stage throughout the country. Popular interest is centering around girls' athletic teams everywhere, and the whole matter has grown into an acute problem of national importance. The tremendous opportunities back of this popular wave of enthusiasm and energy, are far too great to be ignored. They present a direct challenge to leaders and directors of physical education—a challenge for them to so crystallize their professional objectives, that they can put these standards into effective operation; in other words, to take the lead in a big movement, to direct it along the right channels, to control and develop it, and not merely to swing with the tide.

The initiative and leadership in the whole thing rest mainly with the colleges and normal schools. The high schools look toward the colleges for standards, and it is up to the colleges to accept this responsibility and to work it out individually.

I am taking for granted that you know the platform and the objectives of the National Amateur Athletic Federation. It is comparatively easy to understand the general philosophy back of such a movement, and to realize the direct necessity and the advantages pertaining to such an organization. It is, however, another thing to take these standards apart, to apply them to one's own institution, to get them really under the surface, to translate them personally. The solution of the whole problem is, simply, student leadership.

It does not take a college girl, who has actually played the game, long to get the spirit of leadership and to realize that the finest way of "carrying on" is to help others know the joy of the game, the fun of competition, and the thrill of doing things well. To such girls we can actually pass over the training of teams and the preparation for mass competition. After all, the finest thing we can do for girls, is to bring every possible bit of initiative

to the surface and then furnish opportunity for them to express this in constructive leadership.

In many ways the high-school situation is the same. The only outstanding difference is the problem of the intersectional and intercounty basketball tournaments. The only solution of this situation is a substitution of interschool play days, general festivals in which the schools compete in many games rather than in basketball only. The program for this sports day includes such events as folk-dancing, competitive singing, games, and perhaps some joint exhibitions of dancing, swimming, or archery. We have no right even to suggest the elimination of interscholastic competition as it now stands until we can offer a practical substitution in the form of activity which will be just as enthusiastically accepted and wholeheartedly enjoyed by the students. When such a program exists, and all students have opportunity to play, then will our athletics for women be educationally sound and practically valuable.

DANISH GYMNASTICS

Dorothy Sumption
Ohio State University

Danish gymnastics is an innovation in the field of physical education in America. Since the tour of the Niels Bukh group of gymnastic students through the United States in the fall of 1923, interest in this type of work has been widespread among teachers of physical education. Among the universities and colleges that have been trying out Danish gymnastics are: the University of Iowa, the University of Minnesota, Ohio State University, Bryn Mawr College, the Central School of Physical Education in New York, and the Bouve School of Physical Education in Boston.

The teachers of this work are limited in number, having received their training directly or indirectly from the gymnastic schools of Denmark within the last two years. A six weeks' course has been arranged for this coming summer whereby twenty-five American teachers will be admitted to the Niels Bukh School

for special study in gymnastics. Last summer I had the opportunity of taking a three months' course with Mr. Bukh at the *Gymnastikojskolen* in Ollerup, Denmark.

The school is one of many folk high schools in Denmark, in which special emphasis is placed upon gymnastics. Other studies included are history, literature, civics, anatomy, physics, mathematics, English, sewing, music, and folk-dancing. For five months of the year starting the first of November, young men ranging in age from sixteen to twenty-two, attend the school. They are then free to go back to the farms during the summer months, at which time the school is conducted for girls.

The school is ideally situated on one of the most beautiful islands of Denmark. It overlooks a splendid athletic field called the stadium, on both sides of which are lovely Greek statues which make a lasting impression upon one as he approaches the school. The daily life and habits of the students are most interesting and quite in contrast to that of American students. The Danes are slow and easygoing but industrious, happy, contented, and they seemingly enjoy life to its fullest extent. They eat five times a day, coffee in the afternoon and again at night being the additional meals. One is impressed with the patriotism displayed at the school, for the songs of their country and people are sung at the beginning of every class, and each night at nine-thirty all the students gather in the parlors for evening song.

The majority of the students have strong, healthy bodies trained for the work on the farm. No physical examination is required, a fact over which I was much concerned at first. The explanation given me was that they were all perfectly healthy because of the heavy farmwork to which they had always been accustomed. I truly expected to see some one drop dead some day in class, but no such thing occurred. They seemed to be exceptionally healthy girls, probably due to their previous active life. The gymnastic class lasted for an hour and a half each day with constant work of a very strenuous nature. To my mind the work should be adapted to fit our girls who are not so strongly built and the length of time should be shortened in order that this may prove to be a beneficial method in our schools.

The purpose of the gymnastics and folk-dancing was to make these young people masters of their bodies, capable of using them with coordination and control. The ultimate objective of the whole school was to prepare them for their tasks of life, with emphasis placed upon social adjustment in their various communities. Few of the students prepare to teach, but many of them have opportunity to pass a bit of their training to others. Each little village has a *forsamlingshuset* or community building in which the boys and girls conduct classes after leaving the school. They teach without pay, a custom of the wearers of the O. D. pin, which stands for *Ollerup Delingsfrere*, leader of gymnastics.

Last summer about twenty boys remained at the school to work on the *svimmehal*, the first swimming pool to be built in Denmark. The excavation was made with hand shovels and the dirt was hauled away in wheelbarrows, a very slow process in comparison to our modern methods of building construction. The boys worked in the sun, wearing only short pants, so that their bodies were burned to a deep brown. After working ten hours of the day, they had an hour and a half's work in gymnastics for recreation. They had beautifully developed bodies and in certain sustained positions looked like bronze statues. We watched them every night of the week, but we never grew tired of it for their work was so inspiring. They did beautiful apparatus work and tumbling, as full of thrills as a three-ring circus. The interesting thing about it all was the fact that they were not professionals—just students with well-trained bodies, efficient, coordinated, and well controlled.

On Saturdays and Sundays Mr. Bukh would take his group of boys out to different parts of the country where they gave demonstrations, the proceeds going toward the swimming pool. The exhibitions were always held out in the open, and hundreds of people from miles around attended. It was inspiring to see the group of students entering the field, led by the standard bearer, a young man of wonderful physique dressed in a white uniform and carrying the Danish flag. They marched with a steady, firm step as they sang with fervor and spirit one of the national hymns.

The *grund* or primary gymnastics consist of vigorous exercises which are mainly for the purpose of producing flexibility and mobility along with increased muscle tone. The chief value lies in a wise combination of exercises for loosening up tight muscles and relieving stiffness thus producing flexibility, and exercises of a developmental character which will strengthen weak parts of the body. The work is interesting and has an appeal because of the rhythmical way in which the exercises are executed in the bringing into use of large muscle groups of the body, thereby developing suppleness, coordination, and bodily control. Good posture is stressed throughout, for in an effort to hold the body in proper alignment during an arm or leg movement, there is a partial static contraction of the abdominal and back muscles which is a great factor in increasing the tonus of these muscles of the trunk. In addition to maintaining good posture, muscle control enables one to handle himself well under any circumstances. Thus a person who has obtained mobility, perfect muscle control and coordination, is able to move easily and naturally with a certain freedom and grace which abolishes all tendencies toward awkwardness and makes physical efficiency.

Definiteness and localization of muscular movements are the underlying principles of Swedish gymnastic work, while maximum and sustained muscle contraction is required. Unity and quickness of response in movement are emphasized, all of which have a tendency to produce tenseness. In Swedish gymnastics, the strain of the fundamental standing position is relieved by giving "at ease" during explanations, demonstrations, and so on, and for a slight rest after a very strenuous exercise. In Danish gymnastics, the exercises are so arranged that parts of the body are worked in rotation, arms, legs, trunk, and continuing in the same order so that no "at ease" is necessary. The lesson continues with no stops, for one part of the body rests while another part is working. This saves time and accomplishes more in a day's order. While the class is doing one exercise, the next exercise is named; when the final signal is given, the class begins doing it immediately without a break. At first, as the class

makes no special attempt to do things exactly in unison, it presents a rather ragged appearance. But gradually with some suggestions from the teacher, a uniform rhythm of the whole class seems to establish itself and all members fall into this rhythm. The slow work and sustained positions which follow the fundamental exercises merely show smooth movement and control in difficult positions.

There are many theories concerning the future of the gymnastic work in America. Nothing definite can be said as to whether or not the Danish work will replace all other kinds. From the results obtained in my classes, I feel that it has some values which have been lacking in other types of work. We hesitate to accept it without question, for it is only through years of practical and successful use that any type of work can be proved to be the best. Danish gymnastics seem to deserve a trial in our physical-education program. Prospects are favorable for its use in our elementary schools and high schools as well as in colleges, but much study and work will have to be done in adapting it to different age groups, before it can successfully and adequately meet our needs.

RELIGIOUS EDUCATION

C. C. McCracken, *Ohio State University*, Presiding

SOME FUNDAMENTAL PRINCIPLES UNDERLYING RELIGIOUS EDUCATION

Edwin D. Starbuck
Professor of Philosophy, University of Iowa

The best achievement of a convention such as this, I daresay, is to give perspective and orientation. It is our human lot to get smothered under the routine of our work. We need occasionally to climb some hilltop if not a mountain peak of vision. Thus are we here to talk to one another about what the game of education is and how it is to be played.

As we look up and down the growing centuries and about the world at the different human strivings as expressed in religion, in art, in institution building, and in home life, we see only a few dominant passions or purposes in all this human drama. Let us say for short, that lying in behind all our interests and efforts are three fundamental human concerns or obsessions; first, the development of selves by the cultivation of rich, full personalities; second, the recentering of selves in the group, in a spirit of loyalty and good will; and third, a rebirth of the self and of the group into a world of ideal values that are more than personal.

These three passions, are they not the keynotes of religion? Whether in India or Palestine or Greece, one challenging call is to the self to rise and live: "Thou art the Brahma"; "Be ye perfect"; "Know thyself." The second note of religion is to the tune of friendliness, kindliness, love. I was reading the other day in an ancient Buddhist document, the *Dhammapada*, "Hatred does not cease by hatred at any time; hatred ceases only by love," and then came the refrain "this is an old rule." "Thou shalt love thy neighbor," says religion, "and all absorbing shall be thy devotion, for thou shalt love him *as thyself*." The supreme achievement in religion is to free the self through the imagination from its thraldom to selfish impulses, or fact and circumstance, and to

"save the soul" through its devotion to a supreme Truth, or Beauty, or Life, or Personality, or Law, or Righteousness.

These three are also the passions of Art. The joy of the creative artist is to pour forth his best life in terms of beauty. "He sings but as the linnet sings." His delight is to help others achieve the fulness of life that is in them. At his best the artist is an instrument through which a greater truth than his own finds expression. Like Wagner he comes to follow "a deep inner necessity which is the only true necessity"; or like Hartman he considers himself to be "God's stenographer."

In morality the world over, it is about the same story. We preach to our children the value of success, the joy of high achievement; we instill in them, as best we can, the sweetness that comes from kindliness and the glory of high devotion; we invite them to listen to the behests of conscience and their finer intuitions which are the voice of God and the demands of an inviolable law.

These three objectives of religion, of art, of morality and therefore of education, are difficult to attain. The enemies of the self, particularly the dominant higher selfhood, are many: there is inertia lurking deep in one's muscle fiber which must be jolted out of its passivity by repeated stimulation; there is the deadening effect of habit and routine, the hardening of personal motives in the moulds of social custom; there is the unconscious slavery of the individual to the authority of institutions and established doctrines. So many dead lines must be crossed in the growth out of infancy to full maturity, that relatively few persons, one sometimes fears, experience a healthy birth into the full sense of being and the zest of life. The daily round, the stint of chores, the cycle of years, a grist of duties, and then a slab on the hillside telling the full story: John Jones was born on a certain day of a certain month of a certain year (an event for which he was not responsible) and then he "died,"—as punctiliously as he was born,—the two crowning achievements of his career. A few persons hurdle all difficulties, cross all dead lines, get into the game of living, and play well some part in this human round.

The second birth, into the life of others, is also difficult and too rarely occurs. The arch enemies of this reconstruction or rebirth

are selfishness and blindness. Children come into the world with a heavy stock of predisposition to look out for number one, to take their own part. This is the result of our biological inheritance. Children absorb more of this tendency from mingling with adults who seek the main chance and scramble for privilege and preferment. Then, Mother Nature has been unkind, also, to bring children into the world in a forced state of recipiency. For months and even years they can do nothing for themselves. They awaken from helpless infancy, the forced recipients of acts of kindness. As they continue through the growing years, they feel all the lines leading into their precious centers of selfhood. After long years of enjoying these acts of consideration, each one emerges into full maturity, too obsessed of the notion "the world owes me a living." Thoughtless parents seek to guard their children too jealously even in their doubtful conduct and, with more love than prudence parade the virtues of their offspring before others. Our schools take up the game where the parents have left it and talk to the children about success at any cost, fill them too full of the passion of competition, have them strive for head-marks and promotions, and give them too little of experience in the satisfaction that comes from cooperation. Furthermore, nature has been perhaps rather ungracious by making it impossible for a mind to see the needs of others, their fears, joys, and sorrows, as vividly as its own. It is inevitable that if life should have its own luminous center of values, by their very vividness these values would fill the entire consciousness until each life is less aware of the plans and purposes of others than of its own. Nature and training have thus conspired to build prison walls of self-sufficiency around every soul firm and high enough to shut out the light and warmth from other lives. So it is that in the evolution of peoples, it has been the chief function of religion and morality to condemn with tremendous unction the sin of selfishness and to preach with all their might the gospel of love. One can understand and almost forgive the tendency of the higher consciousness of humanity, in its impatience at viewing the maladies that come from excessive self-regardfulness in considering it an unmitigated evil and in condemning it utterly. Thus have asceticism, self-denial, and

complete renunciation often flourished in the name of righteousness. In like manner have unthinking loyalty, whole-hearted service, and love to the uttermost, been proclaimed as the only virtues.

The third, perhaps the most important, of these births, is hardest to realize. Like all precious things it is rare. It consists in the recentering of life in values or objects that are part of the universal order—in truths or concepts symbolizing inviolable laws; in beauty which is in part the stuff of which reality is made; in fact and relation existing in their own right. This rebirth is difficult because we are creatures of sense. These sticks and stones and stars, these parts and organs of our bodies, these myriad objects and phenomena that touch us and pass before our view, we no longer consider as existing *things*. Now in an age of science, as in the ancient days of poetry of the childhood of the race, these are symbols of other existences, of an universal order that operates by its own inherent laws. The atoms and molecules, the electrons and protons, that are the realer reals of these familiar objects and are known only by inference and through the play of imagination, have been dancing out their drama through eons of time before the like of us human creatures came upon the scene. We say we can buy two apples for four cents at two cents each. The savage buys and devours them; the story with him may end with the sense of a good bargain and the smack of gustatory satisfaction. But man has become man because the twoness and the fourness are the symbols of a numerical order in terms with which the world is organized. The apple is symbolical of a biological order which, though unperceived by the senses, is much akin to our human order; the coins used in the purchase are symbols of economic order and of justice among men which Plato rightly conceived to be close to the very center of reality. It is only those who have been born again and again, who can hear, within these number relations, like an old Pythagorean in early Greece, the music of the "harmony of the spheres"; who can see the subtle inner beauty of the apple, and who can feel in its heart the urgency of the rightness of the moral order pulsing through the purchase of his bit of sustenance. The truth of all

these things, like the "Kingdom of Heaven," comes not by observation. It is known only to emancipated souls whose honest hearts have been set free through a trained imagination. One looks at the starry heavens; some of those specks of light against a dark sky are planets like our own, little earths in this playground of the solar system; others are central suns, like our own, moving lawfully through infinite spaces. The fixed stars, however, are distant, so that light traveling incredibly fast requires years to reach our eyes. Some are so far away that light now coming must have started ten thousand light-years ago—let us say in early Egyptian times. The steller universe is vast, lawful, wonderful. It works silently. The fool may say, in his heart, that these specks against the sky indicate only the time of night, the direction of the voyage, or that the morrow will be fair. One who has been born again and again, through thought and imagination, stands reverently in the presence of a majestic order of which he is doubtless an integral and organic part.

All three of these births are difficult, this third, most difficult of all. Everyone who is awake can feel the stirring of higher selfhood within his inner parts. It is the very stuff of which he is made. Likewise, a world of other selves forces itself always upon even the most callous, self-contained individual. If he is unmindful of the concerns of others they will soon remind him, perhaps most rudely, of their existence. But the more real existence of Truth and Beauty and Rightness are as subtle and delicate as they are majestic and inviolable. They can only be caught through symbols, and the mind is often so dull that these symbols lose their radiance and settle down into the hardness of mere things. The wise and prudent often mistake mechanisms and laws for reals and think the world is a dead thing and human beings are mere machines. The earth is pretty full now, forsooth, of those scholars who have an overplus of sociology, undisciplined by philosophy, who say in their hearts there is no God except in terms of abstractions from socially related selves—that this concept of a divine Being is nothing but a "social construct," and not a symbol of veritable Reality. We human beings are almost hopelessly enthralled by the letter that kills and by things that make their sensuous appeal.

I should like that this notion of being thrice-born should be considered as a very simple and livable fact of life. One cannot be a good athlete who is not a thrice-born athlete. The player must awaken to the fun of the game and get the feeling of himself as a skilled participant in it. If it ends there he may attain agility and perhaps be a grandstand artist, but he will be no true athlete. He must in the second place catch the team spirit. The life of the group and the rules of the game played cheerfully and from the inside, so to say, must so seize and transform him that a sacrifice hit or a bit of interference for the man who is to carry the ball will come as naturally as walking or breathing. Then, furthermore, he must undergo a birth into what we might call the soul of sport, so that it is the game that is playing itself through him and not he playing the game. A good sign of this highest and most important transformation is, for example, when the athlete can accept the lesser count almost as cheerfully, certainly quite as serenely, as he can a victory. This third experience so hard to attain in athletics is similar to that which finally lifts the artist and religionist into a new and saving world of meaning as already indicated. It is that kind of a Copernican revolution of values that makes the scientist. Thomas Huxley may stand as the type. Early in life he got his birth into the significance of biological and other problems. He felt himself to be, in a sense, a helper if not a saviour of humanity, through the right interpretation of the biological order. Then, by his own confessions, he experienced a transformation which he describes as that of becoming at last willing to give himself up to be led by fact and truth whithersoever they would. Then, he says, peace came to his life. It was an experience, he remarks, perhaps best described in terms of the Christian doctrine of the surrender of the will to God.

If, now, our point of view should be clear and convincing that these three high facts of possible attainment report truly this human game, we could come over into the sphere of education, including religious education, with fresh perspective. We should be able to name three conditions as important slogans for all we do and aspire to do in education. These three conditions would be *initiative*, *cooperation*, and *reverence*. School methods, school

materials, and school technique, should, in the first place, all soften and reconstruct themselves in terms of bringing out the best in the highest self-realization of every pupil. In the second place, every bit of school life should work in tune with the idea of giving pupils practice in fellowship—in their plays, games, and other occupations—until the spirit of good will, starting first in a round of worthwhile activities, has entangled itself with all their deeper impulses, their thought-life, and their higher purposes. Lastly, never a day should pass that has not been filled with admiration of the wonders of nature and the beauties of human nature, until admiration has ripened into respect for personality, genuine love of the beautiful, and a heartfelt devotion to the Highest.

I visited, the other day, a school in Chicago Heights which is not unlike that great transformation that is coming now in the educational life of the world. It is akin to the so-called Dalton method of educational procedure that started in this country, spread about over England and the Continent, and is reacting again upon the school life of America. This building contained no desks. Each room had three or four large circular tables at which pupils could meet in a large or small group such as was consistent with the particular project at which they were working. Attractive chairs could be slipped about and pulled up to the tables as desired. A child might pull out an appropriate book from the built-in book shelves, draw his chair over next to the homey fireplace, and read for a few minutes or a longer time. Two or three children might draw their chairs close while they work out some interesting problem. In some rooms the entire school were working at the same project. In one room, everyone was engaged, during intervals of many days, on a "Westward Ho!" project in which they were reconstructing the roads and landscapes of the migration westward in the days of the prairie schooner. They all helped to relive the stories, songs, and tales of those adventurous years. Each room was transformed into a fine little community with the teacher as elder sister or kindly mother, and all were working and playing out their life together. Every youngster was happy and proud to bring his own contribution to the group. As one feels his way into the life of the school of that sort one finds it all in accordance with our three

slogans, initiative, cooperation, and reverence. No longer are the children screwed to the desks that are themselves screwed down to an ugly floor; no longer is the game to insulate, as we have been doing, the life of a pupil from that of his fellows. The whole passion is to integrate life into life as richly and fully as ever can be. The ripe fruit of a school of that sort, with its interest in fine personalities and its sympathy with human achievement, is respect, love, loyalty, and reverence.

I visited a church school of this type in Winnetka, Illinois, which is carried on under the leadership of B. S. Winchester. All the children in all the grades were helping. The pupils felt an ownership in the school and were proud of it. They used socialized methods in recitations and in the entire school. They enjoyed the school and elected extra periods with it during week days. They were doing significant projects. For instance, some of the children were getting in touch with youngsters of other lands by means of letters and photographs, and the exchange of botanical and geological specimens. They built cabinets to house these specimens for the interest of the group and for the progressive life of the school. The pupils came to sympathize with the ideas and ideals of other people. All the projects, like all the song and ritual of such a school, tend readily in the direction of friendliness and of reverence, not reverence pickled in some ancient document, hardened into some conventional form, or stiffened into some ritualistic observance, but reverence vitalized through the activities and sympathies of the children themselves. The growing, active child has been set in the midst; the church school exists for him and not he for the furtherance of that institutionalized or conventionalized type of adult behavior that "religion" tends to become.

These seem to me to be the fundamentals of religious education; to keep growing children a-growing and ripening, through practice in creative, inventive activities into rich, full, joyous, purposeful human beings; to plant through daily experience in every muscle and fiber of the child's being from earliest infancy to full maturity the sense of delight that comes from kindliness and the joy of human service; to stir, through the right use of the imagination, admiration and wonder, in the presence of the fine, high, and

lawful facts of experience until the whole heart is set upon truth and goodness and beauty. Is not this what we in a modern world should mean by the term "salvation"? I should not care to teach in a school in which any one of these objectives is minimized or neglected. If they function as the vitalizing spirit of the place, I should not care whether the school were called "religious" or "secular."

PRACTICAL SUGGESTIONS FOR A PROGRAM OF RELIGIOUS EDUCATION ARISING FROM COOPERATION OF TOLEDO SCHOOLS AND CHURCHES

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Ten years ago when a few forward-looking men agitated a movement for a cooperative program of religious education between the churches and the public school of Toledo, they had only two examples of such a plan, that of Gary, Indiana and of Cuyahoga Falls, Ohio. Gary was an exceptional community because of its large percent of foreign population and its unique school system. Cuyahoga Falls was a small city, however, and obviously would not encounter problems of a city of 250,000 population made up of all the races and many of the religions of the world. Could such a program succeed under these conditions? These few men thought it could, interested almost all the denominations of the city and formed an organization which received a grant from the board of education permitting the children of the grades to be excused on school time for these week-day classes. This city then, since September, 1916, has been one of the laboratories for the experiment of religious education in cooperation with the public schools.

The first two years were almost a failure. Three causes probably entered into this result: first, the individual churches alone attempted the work; second, on account of a lack of funds all the teaching was done on a voluntary basis; and third, for the same reason, adequate supervision was not provided. On the other hand, one valuable lesson learned from these two years of experience was how not to carry on this work in large cities.

In the third year, community or interdenominational schools were established, and funds were raised to pay a director and teachers. From that time the week-day religious schools have been running with an increased enrollment, more interest from the people, and more ample funds from year to year.

Church people and educators all over the country have inquired about these schools, and scores have visited them. More than fifteen hundred communities in this country are conducting these schools, many of them with signal success. Ohio probably leads other states in the number of children enrolled. Van Wert is an outstanding success among the smaller cities. Dayton, for the last two years, has been conspicuous for the excellence of its plan and the amount of money raised for this purpose.

As in all pioneer work, many problems arose and were solved; many remain to be solved. The first problem was how to overcome the feeling that these week-day schools were an adjunct of the Sunday school instead of being a more serious effort and having a more thoroughgoing educational basis. It was at first thought that the average Sunday-school teacher could do this work quite satisfactorily, but after many trials, it was found that only trained, experienced teachers were effective. The pupils themselves by their intractability demonstrate this. The most efficient teachers have been drawn from a group of married women who have been successful public-school teachers.

Many details of administration have been worked out satisfactorily, such as securing rooms and service in the churches or parish houses, enrollment of pupils, checking up of attendance so that irregularities do not occur, adjusting schedules to fit special programs, and working out the details for reports of teachers and grades of pupils.

One troublesome question has concerned the making of a curriculum satisfactory to opinions of different groups and yet within the level of the children and the possibilities of a limited equipment. Many experiments in material and methods have been tried. We do not flatter ourselves that the final word on the subject is ready to be announced yet, but our ambition is to put, as far as possible, the whole matter on a sound educational basis.

SPECIAL EDUCATION

J. E. W. Wallin, *Miami University*, Presiding

DIAGNOSTIC TEACHING IN SPECIAL CLASSES

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The term *diagnostic teaching* is of recent origin. It is not likely that all diagnostic teachers agree exactly on its purposes and the way to proceed in it. It is, however, generally understood to be a special type of teaching the individual child with a specific purpose different than that of the ordinary teaching objective. The teacher is freed from the obligation of following any standardized method of instruction. The purpose is to reach a conclusion of what and how much the child can learn, and to decide upon the best procedures for developing him into the best type of citizen for which he furnishes possibilities.

The term *special class* can be appropriately applied only to a class which meets the following requirements:

1. That it be organized and directed to meet a specific educational need in a particular community. Because needs vary from one community to another, a specific statement of what constitutes a special class is impossible.

2. That children be placed in the class only after a careful, thorough, scientific investigation which shows that they fall within the limits of the purposes for which the class was organized and for which equipment and facilities are available. This means that the child is placed in a particular special class because of assurances that he will profit more in it than in any other class within the school system.

3. That the number of children within the class be determined: (a) by the homogeneity of the group; (b) by the adequateness of the facilities, and (c) by the average trainability and educability level of the members of the group.

4. That the methods and materials be specifically adapted to the constitution of the particular group of children to be taught.

This type of class is distinctly different from the regular class because, in the latter, the instruction is measured out according to a predetermined method in such fashion that a majority of the class will profit by the instruction. The special class has been organized to care for children outside the range of regular class methods and materials. Various surveys have shown that more children than generally expected fall outside this range. In replies to a questionnaire sent out several years ago, thirty-one different types of special classes were recommended by leading educators from various parts of the United States. Of these, the most frequently mentioned were classes for the following types of children: the very bright, blind and semi-sighted, cardiac, crippled, deaf, semi-deaf, delinquent, epileptic, feebleminded, dull, normal but seriously handicapped in one or more subjects, nutritional, psychopathic, retarded or backward, defective speech tubercular and pre-tubercular. Such evidence concerning the need for special classes prompts the hope that all children may eventually be taught in special classes as defined in the previous paragraph.

The title of this paper does not mean that the fundamental methods of instruction in special classes should differ radically from those required in regular classes, or that diagnostic teaching is more important in special classes than in regular classes. The need for diagnostic teaching is often not felt so keenly in regular classes because a child must really make a failure of his work before he attracts attention. To do as well or better than the average is to court neglect. Those whose progress is below average attract special attention merely because they fail to get along as well as the average. Sometimes it seems as if the recent emphasis on educational statistics has attracted attention to group averages and norms so that those falling above the average are automatically considered satisfactory educational products and those falling below are just as automatically considered unsatisfactory educational products.

This might be a justifiable interpretation if children were all conceived in a standard and invariably uniform *genus homo* inheritance and were nurtured so correctly both before and after

birth that they were free from disease, that they grew physically perfect, and that their training and mental development were directed and controlled according to a definitely standardized program. Because this is not the case, the only justifiable educational procedure defines failure for the individual as that level of achievement below what it would have been possible for him to do had he been properly instructed. It would seem that each individual should be considered a standard unto himself instead of unto the mathematical concept of the average of all children. Indications are that each individual has what for him is a normal rate of learning and progression from one level of achievement to another. The moment the educational system fails to keep him moving at his individual rate is the time to give him special study regardless of his achievement being above or below the average of children in general.

Because I had difficulty in getting teachers and students to understand the difference between what a child does and what his possibilities for development are, I introduced the term "developability"[1] to carry the latter concept. It designates the highest point of achievement which the individual is able to attain, provided he is given proper guidance and instruction in all his physical, mental, and social developments. Unfortunately we have no accurate measure of an individual's developability. We can only infer what an individual may eventually be developed into, by a careful study of the opportunities he has had and the success which he has achieved within the limits of them. Such a study provides an index (not a measurement) of the individual's rate of progress and the probable complexity of the achievements which may be expected of him in the future. Since we cannot even accurately measure what an individual has learned and done in his past, it is preposterous to assume that we can accurately predict what he will learn and be able to do in the future. The future of an individual can be estimated only by a projection of the general trend and tendencies manifested by him in the past.

[1]Young, Herman H. *How to Interpret and Make Use of Mental Tests.* Bulletin of the Extension Division, Indiana University, Vol. VIII, No. 11, Tenth Conference on Educational Measurements, pp. 26-43.

While it is impossible to measure an individual's developability, every effort should be made to estimate it with the highest degree of accuracy. This can be done only when we can discover the influences to which the individual has been subjected and the way he has reacted to these influences. Because we cannot determine all of the peculiar twists and unusual parts played by environmental influences in the life of any child, it is frequently impossible during the course of a routine examination whether educational, psychological, social, or any other kind, to even approximate the individual's developability level. The persons conducting such an examination sometimes realize that they have not sufficient evidence to arrive at a final conclusion, yet frequently some feel that they have succeeded when in reality they have not. For this reason it is important that teachers of children who present special problems attempt to secure additional evidence as to the possibilities of each child. Some of the so-called intelligence tests may have no special value or may even produce mischievous results if the person administering them is content to take the child's achievement upon them as an index of his developability. Such procedure is tolerably safe in the majority of cases but not universally so. The score, the mental age, and the intelligence quotient when written in numerical terms look the same regardless of whether they are fair or unfair to the child as an index of his developability level.

A child is the product or result of human hereditary forces acted upon and released by environment.—Not only do the hereditary forces vary from individual to individual as stated earlier in this paper, but the environmental forces also vary from individual to individual. Indications are that no two individuals have either the same hereditary forces operating from within or the same environmental forces operating upon them from without. Scientific direction of a child's education requires that his hereditary forces be evaluated with great care, and that appropriate environmental forces be so manipulated in their play upon him that their specific nature, complexity, and sequence, develop him to the highest point possible within the limits of his developability. All accomplishments less than this constitute educational failures in greater or

less degree, according to the nearness with which a child's achievements approach his developability level as the upper limit. An individual's failure to do or learn a particular, desirable thing may result from relatively inadequate human hereditary forces, from improper development of fairly adequate human hereditary forces, or from varying degrees of these acting in combination. A child's persistency in doing something undesirable may be accounted for in the same way. If at any given moment later than immediately after birth we undertake to train and instruct a child by a standardized method and he does not respond favorably to this instruction, his hereditary forces cannot be held entirely responsible until a method of instruction is fitted to his particular case. How he should be instructed cannot be determined by hereditary forces alone nor by what he knows at this moment. The first step is to make a careful case study of his past life and a careful determination of the routes by which he attained his present type and level of achievement. The second step is to try different methods of instruction suggested by the above findings and to vary them as his progress suggests. Such procedure frequently shows that the child's failure to advance as desired is due to improper and poorly adapted methods of instruction and not to limited inherited equipment. If, after thorough investigation, his human inheritance is found so incomplete that he cannot be carried through the various stages of learning the things we desire to teach him, we must, of course, be content to teach within the limits set by his incomplete human inheritance. As teachers we can do no more than work with the material furnished us in the form of children. We must, however, be slow to hold heredity responsible. We should therefore test and vary our teaching procedure until we have reached the limit of our ability to devise better methods. Many a child is classified as incapable of learning because no one studies him sufficiently to devise and intelligently apply methods of teaching him.

Special study of the type before suggested should be made of children prior to their transference to a special class. If, however, they are transferred to a special class without such a study

it becomes the duty of the special-class teacher to make one immediately. There are no infallible methods of accurately selecting children for special classes. A child placed in a special class for either physical or mental causes presents a definite special educational problem. The various types of special classes have different problems, but certain ones are more frequently presented than others. It would take us beyond the limits of this paper to attempt to classify the problems most frequently met in different types of special classes. Summaries of several cases which suggest the varieties of combinations which may be met in any of the classes are therefore given.

Not infrequently a child doing poor work in arithmetic is considered the victim of a special disability in arithmetic when, as a matter of fact, he has good mathematical developability but is the victim of poor teaching. Before he is finally labelled as incapable of learning arithmetic he should be given the advantage of diagnostic teaching. One should begin this by having the child work a number of arithmetic problems and explain, as he works each or immediately afterward, by what processes he proceeded in his work. This must always be done with a sympathetic yet scientific interest because it is the purpose of the teacher to determine whether the child employs the wrong technique or if he is incapable of being instructed in the proper technique. If the former is the situation, the teacher should immediately employ those elements of the child's technique which are useful when properly employed and build other techniques upon them in place of the undesirable ones, so that the combination of techniques which the child gradually acquires will enable him to solve problems in a manner consistent with his mathematical developability. Frequently the method employed by a child in solving a problem is considerably more difficult than the method he is expected to employ. In this case the child demonstrates developability superior to that expected on the basis of his accomplishments when rated only in terms of end results. Usually it is the process of arriving at a result that is of more diagnostic value than the end result itself.

In the realm of teaching crippled children to perform tasks requiring muscular control and coordination, we find some startling possibilities which certainly existed but remained undeveloped in crippled children until within the last few years. The present work in occupational therapy and physio-therapy is now improving the children treated more than was previously considered possible. This suggests that properly directed diagnostic teaching in the realm of learning and habit formation might effect similar wonders in educational, moral, and intellectual development of many problem children. These results are accomplished by carefully studying each child's condition and then moving forward by gradual, yet properly directed and adequately practiced, steps into a realm of accomplishment previously impossible. By this method muscles and joints are induced to become active after many years of inactivity resulting from some of the more frequent forms of injuries and diseases of childhood.

This has been the experience of a girl who, on account of a birth injury, carried her right hand and arm in a fixed, flexed position for nineteen years. Now after thirteen months of physio-therapy treatment, this same girl can straighten her right arm, open her hand, and move her fingers slightly. Indications are that further treatment so carefully applied to her particular case will enable her eventually to use her hand in doing many things. At the present time she can turn a door knob with her hand. This same girl has been unable to speak correctly, because some of the speech muscles were also affected. After twenty lessons of diagnostic speech training, she can now speak many words correctly and gives indications of being able to learn, dependent of course upon the appropriateness of the instruction she is given, to speak all words correctly. The physio-therapy work and the speech training, the two realms of this girl's life to which diagnostic teaching was applied, are especially significant in her case because neither was attempted until she had passed her nineteenth birthday. If susceptibility to training varies, as some people think, inversely with age, certainly the same improvement could have been produced in this girl at an earlier age with greater ease.

One of the most striking cases with which the writer has come in contact is that of a boy now seven years of age who has been a special problem from almost every angle except the physical. He has been taken to different clinics and numerous doctors, where various dignified diagnoses have been pronounced upon him, such as that of feeblemindedness, aphasia, being deaf and dumb, and being a spoiled child. Those who have lived with him say he has always wanted "to do the other thing." When they want to wash his hands he wants to wash his own hands, when they want him to come he wants to go, or to sit still. His persistence in doing "the other thing" was what earned him the various diagnoses. The first time I saw him, all ordinary methods of determining whether or not he was deaf failed. Fortunately it was not so difficult to demonstrate that he could talk. He did, of course, not speak very well because of lack of practice. On one occasion a new kindergarten teacher had to assist him so much in his walking that she practically carried him at the beginning of the period. Before the end of the period he was playing ball with the other children, and she discovered that he could both walk and run. One week of properly directed discipline, that is, diagnostic teaching in the realm of discipline, recently improved his general behavior and conformity more than had been developed in all his prior life. This week of training has brought more responsiveness to auditory stimuli and has developed more speech habits than all his life prior to that. The individual attention given this lad in the form of diagnostic teaching is probably the only effective method of helping him to develop habits of life consistent with his developability level.

The cases cited illustrate the problems and possibilities found everywhere with children. The number and varieties of combinations are infinite. Each must be approached with open-mindedness. The following outline suggests what the writer believes is required in diagnostic teaching and should indicate the difference between it and ordinary teaching and tutoring.

Diagnostic teaching requires that the teacher:

1. Catalogue the child's achievements, that is, what and how much he knows and can do.

2. Discover and analyze the methods by which the child acquired these achievements and what methods he now employs in utilizing them.

3. Determine what information and techniques the child possesses which are desirable and useful in and of themselves or as foundations upon which to build others.

4. Teach new desirable and useful foundations in the proper sequence wherever needed by adopting, adapting, and devising methods of instruction which appear superior to those previously employed, and which utilize all information and techniques the child has learned that furnish foundations upon which to build.

5. Keep exact records of the successes and failures the child makes.

6. Revise methods as suggested by and consistent with careful thorough interpretation of the above findings.

7. Continue as directed above until sufficient evidence has been accumulated and interpreted to show how the child can best be instructed, and how much improvement may be expected.

8. Teach him or have him taught in a special or regular class by the methods outlined in the sixth requirement.

EMOTIONAL ASPECTS OF SPECIAL EDUCATION

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Mental health is as important for mentally retarded pupils as for others. A subnormal child should not become abnormal also. Whether he does or not is largely a matter of emotional adjustment to social situations. In their emotional equipment, subnormal people come closer to the average of mankind than in their intellectual life, so I am going to discuss the emotional and social development of average people and allow you to make your own applications to "special" children.

We all pass through different stages of growth; but different writers divide and describe them differently. This is because man is a complex being who grows physically, mentally, socially, and educationally. In each one of these ways the growth is usually gradual, with one stage shading into another like rainbow colors. You can choose anything you like as a standard of growth, and you can divide the growth itself into as many stages as you wish for the purpose in hand. I am going to follow E. A. Kirkpatrick in using social development as the basis of division into six stages (0–1, 1–3, 3–6, 6–12, 12–18, 18–24), though I differ from him quite radically regarding the nature of the first of them.

These six stages in the life of the individual are, of course, preceded by an age-long ancestral period of fierce struggle for existence that largely fixed the general nature of man, by weeding out tribes, families, and individuals who could not meet the conditions of successful life and parenthood. In the light of that long struggle we may often see how we owe our existence to qualities not particularly amiable, such as the fighting spirit that gave our ancestry a goodly land to inhabit; the relentless thrusting out of weaklings that kept the tribal blood unpolluted; the blind loyalty that held the tribe together; the fierce jealousy that excluded invaders from the family circle; the very "cattiness" that helped to hold the protecting care of husband and father. Thus we may gain a new respect for human nature as it is, a new tolerance, a new conception of normality, a reasonable limit to reforming zeal that might otherwise wipe out some of our most essential human qualities.

The individual begins to live nine months before he is born. As his nervous system is entirely separate from that of the mother, it is hard to see how any thought of hers can be passed over to him, but with anything that gets into the blood stream it is different. He can be affected by poisons and probably by endocrine secretions, including those that come with strong emotion. He can doubtless carry with him into later life the effects of prenatal habits. Perhaps that is why babies like to be rocked to sleep as they were rocked by walking mothers in the quiet months before birth, and why victims of dementia praecox, defeated in the struggle with the world, often lie for hours in the prenatal postures that went with effortless security and comfort. (See Kempf's *Psychopathology*.) After choosing a proper father for her child, the best that a mother can do for the unborn infant is —not to cultivate her brains hoping to give it intelligence—but to maintain her own health and peace of mind and the perfect love that casteth out fear—and fear products in the blood.

If there is no new creation at birth, there is certainly none afterwards. Things that go wrong at any stage are likely to affect all the rest. A little baby clinging to a worn, irritable parent who cannot be counted on for constant love, may gain a

sense of insecurity that lasts through life. If the parent is constantly unhappy, the child may sacrifice light-heartedness for the sake of the oneness that comes from sharing moods, and all through later years light-heartedness may seem forbidden. This is true with many attitudes. A child of three who is tied to apron strings when he ought to be experimenting with all sorts of things for himself, may never learn to act on his own initiative and carry a project to success without a hampering, mysterious sense of something wrong; and if, from six to twelve, he is not allowed to join a gang and fight his way, he may feel awkward and inferior all through life and have little chance of becoming a mixer or a leader, for fighting one's way is serious business which slight discouragement from home can spoil. If parents magnify the faults of the pubescent lad, or if his courage has been sapped in an earlier period, he may discover some wonderful lass who seems too good for him, and he will slink away from honorable competition and chivalrous wooing and find cowardly ways to gratify the urge that ought to lead to noble deeds; while the religion that appeals to him will be one of grovelling penitence rather than of joyous participation in the purposes of a Heavenly Father who relies on him. These are but samples of wrong emotional attitudes; and what has been said of boys is just as true, *mutatis mutandis*, of girls. Each stage has dangers of its own, but a wrong twist acquired in any of them is likely to make trouble in all that follow; and the most important stage of all is the earliest.

Life is a connected whole, a kind of symphony woven around a few simple airs that recur again and again as the basis of it all, but these simple motives that run through a life are not, at bottom, creeds, formulas, or anything intellectual. Indeed, one's intellect may disclaim them. They are emotions and attitudes that happen to start in early life and continue through force of habit, until they seem to be a part of the very nature of the person. The lesson is to "keep thy heart (and the hearts of thy children) with all diligence, for out of it are the issues of life."

MENTAL HYGIENE IN THE FIELD OF SPECIAL EDUCATION

Francis N. Maxfield
Ohio State University

The main objectives of mental hygiene, whether in the special class for atypical pupils or in the regular grades of the elementary school are: (1) the optimum mental development and social adaptation of each pupil and the prevention of mental and social maladjustment; and (2) a case study of each so-called "problem child" which will show us the causes of maladjustment and of behavior difficulties and the carrying out of the remedial or corrective measures indicated.

Whereas much effort of the teacher is directed toward the intellectual development of the pupil as shown by his learning and progress in the studies of the curriculum, mental hygiene is largely concerned with the development of personality and character as shown by his emotional responses and social reactions. If the intellectual side of his mental development is neglected he may grow up ignorant and illiterate, but the development of personality and character goes on whether he is neglected or not. It may be a character of which we approve but development goes on just the same. We cannot stop it.

It is for this reason that preventive and corrective types of mental hygiene in the preschool years and during school life have tremendous significance. These qualities of personality and emotional control, and the ability to make social adjustments are not only major factors in the health and happiness of the individual but have economic value and significance. Much of the necessary work of the world is carried on at a low intellectual level where a high intelligence quotient is of little account, but no type of employment is so unskilled nor any task so menial that reliability, the will to work regularly, emotional self-control, good-natured social conformity, and other such qualities of personality, do not count favorably for health, happiness, and economic independence.

The program involves:

1. Individual study of each child.

2. A classroom atmosphere favorable to good mental hygiene. The pleasing personality of a teacher, a bright attractive room, a social spirit of cooperation and mutual good among the pupils, will all count.

3. Adaptation of school work to the capacity of the pupil. Discouragement or dislike of school due to its lack of adaptation to the ability of dull pupils, or inattention and careless attitudes due to equal consideration of the capacities of bright children, not only result in inferior school work but have bad influence on character. Class exercises should have a social aspect. Project work by pupil groups should be encouraged even if the pupils represent a wide range of ability. Physical education, health teaching, and work in citizenship and the social studies, generally give opportunity for both direct and indirect teaching along the lines indicated.

4. Home cooperation.

5. The emotional life of the pupil and his social reactions should be studied. We deal from time to time with mental cripples,—personalities that are maimed, warped, or paralyzed just as truly as are the bodies of those we call cripples. Some of them need mental crutches, braces, or even artificial limbs. All of them need corrective work which we may call "orthogenic" just as in the case of cripples we speak of "orthopedic" exercises. Underlying theft, lying, truancy, cruelty, obscenity, and other forms of delinquency, we find some perversion of emotional trends or instinctive tendencies as we may call them, of fear, sex, anger, self-assertion, and the like. These tendencies should not be treated as *bad* in themselves and attempts to eradicate them are not only unsuccessful but lead to repressions and to concealments that are not mentally hygienic.

These natural tendencies should be changed from personality and social-adjustment liabilities to assets; this is accomplished by directing their development along lines which make for the development of desirable character. In other words the special class teacher has the same problems in mental hygiene that confront the teacher in the regular elementary grades and her own peculiar problems beside. In any case her watchwords will be "prevention" and "correction."

TEACHER TRAINING

CHARLES W. HUNT, *Cleveland School of Education*, Presiding

STANDARDS FOR A TEACHER-TRAINING INSTITUTION

W. C. BAGLEY
Columbia University

Mr. Chairman, Ladies and Gentlemen: The matter of appropriate standards for institutions for the professional education of teachers is an arresting problem today. This interest has been growing and culminating very largely because of the marked development of these professional schools during the past ten years. A most notable phase of this development has been the advance in the status of these institutions from the secondary to the collegiate level, that is, the development of normal schools into teachers' colleges. With this development has arisen the necessity for such standards in respect of entrance requirements, curriculum requirements, the qualifications of the faculty, the teaching load, the student load, and the requirements for the granting of degrees and certificates, as shall be comparable with those of other collegiate institutions. Great need has been felt for a common agreement throughout the country as to what a teachers' college really is, what its curriculum ought to be—at any rate in its larger features, and of what the qualifications of its teaching staff should consist.

The most important work in this field has been done by the American Association of Teachers' Colleges, which now includes almost all of the four-year teachers' colleges and many of the two-year and three-year normal schools. For several years this Association has had a committee at work on the problem of standards; this committee reports each year. The members of the Association are gradually coming to agree upon some of the important standards for these institutions. I could take your time this morning to discuss in detail these suggested standards as they now appear in the reports of this Association, but I shall refer to a few of them by example only. You may easily obtain

the reports of the American Teachers' College Association by addressing the secretary of the Association, Dean H. C. Minnich, of Miami University, Oxford, Ohio.

What I should like to talk about particularly this morning is the relation between quantitative standards and the real end which these standards seek to attain, namely a raising of the *qualitative* level of teacher training.

We have, for example, the need of recognizing an optimal load for the teachers in normal schools and teachers' colleges. The load should not exceed that recognized as a fair teaching load in liberal-arts colleges of the same grade. Certainly we need in our normal schools and teachers' colleges the very best instructors we can get, and we should be able to compete with all other institutions for that type. We do not necessarily require the same type of instructor that the liberal-arts college and university require. We do need, however, an instructor who in all essential respects is just as well educated. Clearly reasonable standards of teaching load for our teacher-training institutions are amply justified.

It should not be forgotten, however, that when we are constructing standards for our professional schools somewhat upon the basis of the standards that have been constructed for other types of institutions, particularly liberal-arts colleges, there is danger that the professional purpose of our teacher-training institutions will be either obscured or belittled. In this connection let me call attention to the peculiar character of the service that an institution for the professional education of teachers must render. If we compare the normal schools and teachers' colleges with liberal-arts colleges, we find some very striking differences, among the most important of which are the differences between the students of the two types of institutions. Several studies have been made of the student personnel of the teacher-training institutions of various states. I have personally conducted studies in Massachusetts, Pennsylvania, and Louisiana, and one of my students has made an extensive study of the situation in Connecticut. Other studies are available for Michigan and for some of the far western states.

The most striking thing we found in the Massachusetts study had to do with the sources from which the students of the normal schools are recruited. In Massachusetts, a clear majority of all students who entered the normal schools in 1921 came from the families of skilled and unskilled laborers. In other words, it is the industrial group from which the teachers of the elementary schools in Massachusetts are recruited. These young women are given two, three, or four years of professional preparation before they become the teachers of the elementary schools of the state. A few from the four-year curricula go into the high schools, but most of the graduates are drawn into the elementary-school service. Not only do these normal-school students come from the families of industrial workers, that is, skilled artisans and unskilled laborers, but a substantial proportion of them come from the homes of foreign-born residents. In one of the normal schools of Massachusetts we found that forty percent of all the students came from homes in which the English language was not spoken.

The same condition holds in Connecticut. A recent article in *School and Society* distributes the student personnel of the normal schools of that state with regard to the racial, social, and economic status of the families concerned and finds that a clear majority come from the families of industrial workers. In Pennsylvania the situation is not quite so marked. While a substantial proportion of the students in Pennsylvania normal schools come from the homes of industrial workers, the state is more agricultural than either Massachusetts or Connecticut, and so we find there a larger proportion coming from the homes of farmers. In Louisiana a much larger proportion come from farmers' homes. The same is true in Michigan, although a considerable proportion come from industrial homes.

The important point is that a relatively small proportion of the students in these professional schools come from the homes of the professional groups, and that, while a larger number come from the homes of the business and commercial groups, this number by no means constitutes a substantial proportion.

From a study, on the other hand, involving sixty-two liberal-arts colleges and universities, we find quite the opposite tendencies. A negligible proportion of the students in the liberal-arts colleges and universities come from the homes of skilled or unskilled laborers,—almost none, indeed, from the homes of unskilled laborers. In the colleges and universities, the bulk of the students come from the homes of the professional classes of people engaged in business and commerce.

There is a distinct difference, then, between the two groups. Remember, too, that the students in the normal schools and teachers' colleges will enter the public-school service to do what might be called the basic work of the educational system. They will administer the only type of education that touches every boy and girl in the land. They come from homes, in the majority of cases, that, insofar as we can judge, have limited resources. Not only are their parents less able to give the children a background of culture and refinement, but they are also circumscribed economically, and by having a large number of children to look after.

These facts not only suggest a need on the part of the professional schools for care in borrowing standards that have been developed for liberal-arts colleges; they also mean that our teachers' colleges and normal schools labor under a significant handicap that ought to be considered in connection with any plans for their development. The handicap should mean for the students attending them a longer period of institutional training than would be necessary for students coming from families of other types if the deficiencies are to be in some measure overcome. It might be asked whether our professional schools could not select from a better-circumstanced group of families. Should we be able to get into our normal schools and teachers' colleges a group of students who represent in larger proportions the homes of the professional classes and of the business and commercial classes?

Personally I do not believe that this solution of the problem is practicable. In the first place, we need so many teachers for our schools that it would probably be impossible to recruit

the necessary number should we limit the sources of supply to the better-circumstanced homes. In the second place, while it is true that we are recruiting from the industrial classes, from the poorer-circumstanced economic groups, and from groups with large families, I am not convinced that this is a bad thing—provided that we can make up for some of the deficiencies in our training institutions. We are getting in the New England normal schools and to a certain extent in the normal schools of New York, Pennsylvania, and New Jersey, the pick of this particular stratum of society. As I watched the students in the Massachusetts normal schools, even in those schools where so many students represented the second generation of the immigrant population—as I watched them at their work and as I talked with them and noted their attitude toward their profession and toward our country, I was not at all depressed. They are the cream, so to speak, of the occupational groups from which they are being recruited. There is, moreover, an advantage in having in our elementary schools the type of teacher who, because of his own early environment and upbringing, can sympathize with and understand the pupils with whom he will deal.

In connection with the advance of our work and that of the elementary schools, therefore, the problem is to make up for the deficiencies of these students just as far as we can by extending the period of residence and by emphasizing in our professional schools certain types of work that perhaps are not so much needed in our liberal-arts colleges and universities.

May I call attention for the sake of illustration to one or two things in this connection? For example, the extra-curricular activities of our teacher-training institutions are particularly significant from this point of view. We call certain types of activity "extra-curricular." I do not like the term myself; I would rather think of a "curriculum" as including not only the formal studies but also the life of the school itself. The institutional life of the normal school or teachers' college should be capitalized just as far as possible in correcting the defects that I have mentioned. Of particular significance, of course, is the dormitory life. The states that have adopted for their normal

schools and teachers' colleges a thoroughgoing dormitory policy are most fortunate. With a dormitory system, the students may be kept under the influence of the institution, not only during the school day, but throughout the week, over the week-ends, and throughout the school year. The moulding influences of the school life and of the extra-curricular activities then have full opportunity to operate.

The facts to which I have alluded also bear importantly upon the expansion of the curricula of normal schools and teachers' colleges. The four-year curricula in the normal schools and teachers' colleges of the Middle-Western and Far-Western states have been developed largely for the training of high-school teachers. The great need, it seems to me, is an extended training for elementary-school teachers.

New York State, which has gone on a full three-year program for its normal schools and city training schools, has found not only that the attendance at these institutions has not declined, but that it has actually increased. In spite of adding a third year, the New York normal schools will graduate more teachers than they did before under a two-year program. The three-year program for the training of elementary-school teachers in our industrial states is thus clearly vindicated. Now New York does not try to train its rural-school teachers on a three-year program—nor on a two-year program for that matter. The people of the state as a whole would be willing to train rural-school teachers on an extended program, but the sentiment in the rural districts does not favor the employment of teachers with so extended a training. For the urban schools, however, the public demands teachers with the longer training and it is willing to pay the salaries that better-trained teachers must have.

I have said that the professional purpose of the professional school should not be obscured by the adoption of standards borrowed wholly or partly from institutions of other types. For example, we should not be tempted to lay less emphasis upon practice teaching by too literal an imitation of the standards of other institutions.

Even more dangerous, perhaps, would be the neglect in our professional schools of the study of the subject-matter that the students will teach in elementary schools,—the study of arithmetic, geography, English, history, and the other elementary-school subjects, from the professional point of view. The responsibility for this training should not be placed upon the high school. It should be considered a very important phase of the professional school's duty. This means, of course, the treatment of the elementary-school subject-matter upon a much higher level, and in a broader, more comprehensive way, than the elementary-school curriculum itself suggests, or than any "review" treatment in the high schools could encompass.

In addition to these courses in the subject-matter of the elementary school treated from the professional point of view, other courses should aim to give to the prospective teachers a breadth of scholarship and of culture that they certainly need, particularly in view of the sources from which they are now recruited. The teachers need culture and refinement as part of their professional equipment. Consequently the normal school and teachers' college are clearly justified in including courses that will enrich equipment from this broader, cultural point of view. There is a grave danger, however, that these courses may not perhaps fulfill the desired function. There is a danger, too, that they may prevent us from giving the proper attention to the actual subject-matter that the teacher proposes to teach. Again, standards borrowed from institutions of other types may interfere seriously with an adequate meeting of the purpose for which the professional school exists.

HOW MAY STANDARDS BE MAINTAINED?

George F. Arps
College of Education, Ohio State University

The maintenance of teacher-training standards is inseparable from and concomitant with the determination and establishment of "standards." The social forces which operate in the development of standards are likely to be similar to those which maintain

them. I am, therefore, not likely to differentiate sharply between development and maintenance of standards.

At the outset, perhaps it should be confessed that I have not analyzed the methods of maintaining standards as practiced in other teacher-training institutions. The modern educational technique of investigation does not lend itself readily to the problem. Moreover, the terms "standard" and "standardization" connote a certain fixed sample or pattern—something rigid, inflexible—a mechanical process such as the cutting of a screw thread, designed to meet unchanging conditions and properly reducible to invariable determination.

A teacher-training program on the other hand must be an ever-changing one prepared to meet an ever-changing society. A forward retreating ideal rather than a fixed standard of attainment is the essence of a growing program. Individuality, initiative, and resourcefulness do not readily lend themselves to fixed modes of procedure; they cannot be confined to standardized patterns. Standards, in the sense of definitely determined archetypes, will remain static in the hands of the unimaginative. Those competent to determine standards forsake them almost on the eve of their erection for more desirable ones, thus recognizing the futility of establishing definite fixation points. Constantly changing objectives socially determined present a much truer picture of an educational ideal for a teacher-training program. Definite social orientation as an end, with educational principles as means, will save the rank and file of the training profession from early stagnation.

I would suggest the following as desirable and necessary factors in the development and maintenance of the so-called "standards" of teacher-training.

1. Select a faculty of acknowledged teaching effectiveness and recognized scholarship. Afford the members of that faculty the necessary facilities and permit them to pursue their objectives undisturbed.

2. Having selected the personnel, deprive them of the opportunity of becoming proficient clerks by providing competent stenographic and clerical assistance.

3. Cease deifying machinery, rules, regulation, and routine. Nine-tenths of our endless committee work is so much lost motion. Above all else place the responsibility of an education where it rightfully belongs, upon the student.

4. Reduce the number of hours of instruction per teacher to such limits as will enable the instructor to teach refreshingly and to keep the material of his instruction renovated by incorporating the latest and best literature in his field.

5. Remove the instructor's status from a condition of economic penury and social inferiority. Not that he may enjoy a life of ease and luxury, for he is merely an instrument to serve the public welfare, but rather that as an instrument he may serve effectively.

6. Revise instruction so that it may become more individual and effective. Group education fails in contact. No teacher, under the existing conditions of mass education, can advantageously place himself at the disposal of his students. Mere revision of instruction will not do. Parrot teachers, devoid of mental nimbleness and curiosity are not likely to kindle the curiosity of the youth and incite him to the involuntary exercise of his imagination. Revision of instruction along the line of greater individual instruction will mean a large increase in the cost of instruction—an increase in excess of the amount the American public is probably at present, willing to invest. When the returns in terms of civilization are visualized, cost ceases to be a matter of serious concern.

If we as administrators will observe in the main these several injunctions, the question of standardization, maintenance, and organization, except for necessary routine which should be reduced to invariable habits, is not likely to arise seriously.

A progressive teacher-training program involves a priceless process of social and educational evolution—a process in which moral and cultural values, ideas and ideals, form the moving motives. Formulas, codes, habits of conduct, and other forms of standardized procedures find no essential resting point in such a program except in routine matters, already indicated. Fixed types or standards represent organized procedures and mean that a relatively static condition has been established.

Standardized procedure is well illustrated by the superintendent who looked at his clock at 10:30 A. M. and reminded his visitor that at this precise moment every sixth-grade teacher in his system of schools was not only teaching Least Common Multiple, but teaching it in identical fashion. I know of no finer example of dictatorial straight-jacket. Over-drawn! Yes. But splendidly illustrative of deifying the god of standardization. In these circumstances, what happens to experimentation, initiative, resourcefulness, imagination, originality, self-affirmation, and all the rest of those qualities which spell the difference between life and death?

So much for our anxiety with regard to the crystalizing effect of standardization. What then must be our attitude toward maintenance of standards? Maintenance is synonymous with relative perpetuation. Maintenance, therefore, means a state of balance rather than continuous pursuit by trial and experimentation. If a type of practice is maintained for a longer or shorter period we find varying degrees of stagnation. A teacher-training program of progressive attainment does not root in fixed standards or their maintenance; there is no resting place. The prosecution of such a program is not unlike the quest for virtue. With reference to the good man, L. P. Jacks says: "The more virtue he wins the more he has to keep in exercise. Every one of his virtues will leave him unless he continues to assert it, to win it afresh day by day. The conquests of yesterday are always precarious and, as the conquered territory increases, the greater becomes the demand on the wisdom and skill, on the patience and alacrity, on the courage and rigour of the good man."

The saving grace in the situation consists in the fact that those most competent to erect standards in the field of educational and other social processes recognize the fluid character of the processes and the necessity of continual renovation of standards. Not so with the ninety-and-nine for whose unimaginative minds a standard becomes a means of settling vexing questions once and for all. Complacency long sought is now a fact accomplished. Striving and change, always irritating, is now circumscribed by a definite quality of effect. The attitude is one of "and that's that." Even so with our teacher-training program. Continuous adaptation of means to social ends as unconquered territory, rather than fixed standards of attainment should be the guiding principle in a continuously developmental program.

THE PROGRAM OF THE STATE DEPARTMENT IN MAINTAINING STANDARDS

W. B. Bliss
State Department of Education, Columbus

The State Department's basic tenet on teacher training is pure pragmatism—the graduates must succeed in the schoolroom or the training program is considered inadequate. Standards of teaching success vary, of course, but, granting variations in superintendents' appraisals, there must be a general trend toward correct estimates, or the whole program of training and supervising teachers will become a "babes-in-the-wood" proposition.

Along with this reliance upon the acid test of success, the Department sees a need of a standard that will somewhat extend the right of the training school. The training institution should follow its product into the classroom for the first year at least. The Department has devoted considerable attention to this matter of appraising the work of young teachers and has concluded that it is a vital part of the training process. The training school cannot well afford to shut its eyes to the aftermath of its training efforts; if it has any sort of a conscience it will welcome the insistence that it follow up its graduates.

Ohio University at Athens already has such a plan. Students are rated by the critic teachers during their practice work on a five-point scale, twenty items being considered in the rating. The same kind of rating is made by the superintendent of schools or supervisor under whom the young teacher works when she goes into actual service. The latter rating is compared with the critic teacher's evaluation and, if serious discrepancies exist, the matter is carefully investigated. Help is then given as the occasion demands. The Department of Education is making a concerted effort to encourage training institutions to provide for this follow-up work.

A second important item from the Department's standpoint is the elementary teacher's mastery of subject-matter. Young people enter teacher-training schools with glaring gaps in their

knowledge backgrounds for elementary subjects, but they cannot be permitted to leave the institution in such condition. The result is that most institutions present some subject-matter along with their methods courses. The more logical method, however, is to take those who are discovered through diagnostic tests to be conspicuously weak in one or more elementary subjects and to place them in so-called "hospital" classes where they remain until they attain a certain designated standard of performance on an objective test. The improvement commonly made in these classes is remarkable. Both Ohio University and the University of Cincinnati report having utilized such a plan. Such "make-up" classes though purely non-credit courses are absolutely required of all entrants who do not measure up to certain standards.

The final important procedure in maintaining standards is the uniform entrance test for all institutions. The best hope for improving a product seems to lie in improving the raw material. Training being by law a constant, the variable that makes for success or lack of it is, after all, the ability and personality of the individual. The application, to entrants, of certain standards that determine fitness and likelihood of teaching success, seems the right way to deal with this raw human material that is to be made into teachers. These entrance tests fall short of perfection to the extent that their standards are erroneously defined, are not broad enough in scope, or correlate poorly with actual success in the classroom.

The entrance-examination program which has been followed in this state for nearly four years has measured prospective entrants as to general ability, use of English, and knowledge of one or two fields of elementary subject-matter. Each institution has the opportunity to go further than this. The results obtained have given general satisfaction. The standards on this examination need to be raised and will be raised from year to year. Two years ago the standards set caused about 7.5 percent of the examinees to fail; last year higher standards produced a failure percentage of about 9.5. This last year the total number of failures exceeded five hundred. An entrance examination finds its justification by keeping from the training school this sizeable

host of incompetents who would have been enrolled under the old plan of requiring high-school graduation as an entrance condition.

It should be kept clearly in mind, however, that such a program does not constitute a comprehensive enough measure. Each institution may well set for itself some additional criteria that go beyond anything that can be set up on the basis of statewide uniformity. The Department will not be reluctant to back any institution making the entrance barriers high enough and broad enough to keep out all incompetents, no matter wherein their shortcomings may lie—in body or brain, lack of learning, or lack of character.

VILLAGE AND CONSOLIDATED SCHOOL SUPERINTENDENTS

ALBERT E. GOWER, *Superintendent, Plain City,* Presiding

WHAT ARE THE BUSINESS DUTIES OF A SUPERINTENDENT?

JAMES M. TURNER
Superintendent of Schools, St. Paris

The present-day superintendent of schools has supervisory duties and business duties. It is the purpose of this paper to discuss only the business duties. In city systems the business duties are performed by a specialist known as the business manager. Such a scheme, however, would be impracticable in the village and consolidated schools of which we are representatives, where the superintendent must attend to business as well as supervisory duties. The business duties may be classified as: first, the business duties involved in the superintendent's relation with the board of education and with the public; second, financial duties, including budget-making, financial accounting, and working out of comparative costs; third, the duties concerning the physical plant and equipment, purchasing supplies, and so on.

I wish to stress the first duty more than the others for I believe this duty is the one most neglected by the average administrator. The superintendent should cooperate with the board of education to observe the fullest measure of fidelity and good faith and to aid in maintaining the highest type of board service. To perform this duty well he should thoroughly know the school law and the work of the clerk and board of education. He should be the best-informed man of the group that meets each month to transact the district's business, in order to guide them in all business procedure. It is his business duty to be so well informed that he knows at all times whether the business is being conducted in the best possible manner and in accordance with the laws of the state.

In a recent study that I have made, I found that scarcely a board of education in the state does not violate, in the course of a year, from one to a dozen or more laws. In this study, the State Bureau of Inspection Reports were tabulated for every school clerk in eight counties. The tabulation gave the section of the law violated, a digest of the law violated, and the number of times the law was violated. There were two hundred and two reports tabulated, of which only a partial summary or a mere sample is given here.

TABLE I

A Sampling of State Law Violations by Boards of Education

Section	Digest of Law Violated	Times Violated
4754	Minutes not properly signed by the president. (This is a serious error on the part of the president as the minutes are not legal until signed by the officers of the board.)	39
4752	No *yea* or *nay* vote taken on the election of officers. (This section is mandatory and should be complied with in every case.)	80
4781	Clerk's salary not fixed by the board.	18
4768	Warrants signed by the president in blank. (Checks should never be signed by the president until properly filled out showing the amount, to whom paid, and for what purpose, as read in the presence of the board in their meeting.)	16
5660	No certification of funds by the clerk.	110

As space prohibits the discussion of the other business duties of the superintendent, permit me to say in conclusion that should the first business duty be carried out, the law violations would be reduced to a minimum. The superintendent should hold his board of education to the same high ideals in business transactions to which they hold him in school administration.

IS THE JUNIOR HIGH-SCHOOL ORGANIZATION PRACTICAL IN VILLAGE AND CONSOLIDATED SCHOOLS?

THOMAS H. PLUMMER
Superintendent of Schools, Millersport

Since the junior high school as a part of Ohio's public-school system is in its infancy, it is the purpose of this paper to discuss some of the benefits derived from this type of school organization as they have been observed by those interested in the work. The junior high school has for its aims: (1) departmental instruction, (2) differentiated curricula, (3) supervised study, (4) subject promotion.

1. Departmental instruction.—By providing departmentalized instruction the pupil and teacher are both benefactors. The teacher comes before the class with special training, the subject-matter well in hand. She is ready to present the assignment in an interesting, enthusiastic manner which will catch the attention of most pupils who have any interest in the subject. If any school system justifies its existence, it must base its claims upon ability to discover and explore the interests, aptitudes, and capacities of its pupils. Herein lies the strength of the junior high school with its corps of specialized instructors, each one sincerely believing that her subject is of no less importance than those taught by others. Quite different is the interest and enthusiasm manifested in a class with this type of an instructor, from that of classes in our grammar grades where one teacher attempts to handle the entire curriculum. Here, too often, the teacher is interested in one subject, as many of us are. What superintendent has not seen a class on entering high school prove that its previous instructor was a specialist in arithmetic but rather careless with his English! On the other hand, what teacher of algebra has not discovered that some of his classes were taught the year before by a lady who, though very precise in her use of English, openly demonstrated that the science of numbers was intended only for civil engineers!

Departmental instruction also has an advantage over the one-teacher type of school by being able to care for a weak teacher,

should any be found in the faculty of the school. Under ordinary conditions the class would meet this teacher for only one period, while all other periods would bring strong teachers who by their superior methods, greater skill, and more attractive personalities would overcome much of the loss effected by their less successful neighbor. The problem of weak teachers, however, does not seem to be a coming menace since a canvass of several schools has shown that almost all village schools use a faculty in the junior high schools in no way inferior to that of the senior high schools.

2. *Differentiated curricula.*—By providing differentiated curricula, the junior high school has taken another step in advance of the grammar school. Offerings in home economics, manual training, junior high-school mathematics, and science, have been introduced as exploratory courses looking to the proper election of senior high-school subjects in accordance with individual differences and interests. It is here that the pupil may find himself and, upon entering the senior high school, be able to select a definitely outlined course which will either prepare him for college entrance or the activities of the business world.

3. *Supervised study.*—This program offers many advantages not enjoyed in the elementary-school system. With the longer periods, the teacher has excellent opportunity to use part of the time to work with the individual, discover his weaknesses, and help him to eliminate them. Should the class as a whole lack the fundamentals of elementary education, the teacher will have plenty of time to partially eliminate the trouble. Starting with a weak seventh grade is very different from interesting an unprepared ninth grade, in entirely new subject-matter considered by most Freshmen as a mountain peak to climb.

4. *Subject promotion.*—The possibilities of subject promotion is a feature of the junior high school not to be overlooked. The old system of promotion said, "Failure in one or two subjects is failure in all." The new says, "Get what you earn." Should a pupil fail in one subject and be promoted in all others, it is entirely possible for him to make up the deficiency and graduate from the senior high school with his class. On the other hand,

a pupil who is a leader in his class may be permitted to carry more subjects than the regular load and graduate one year earlier. Under the 8-4 plan of organization this procedure is nearly impossible. Most important to all of us is the loss from classes by failure. The state annually loses thousands in taxation by the failure of its pupils in the public schools. We can only hope that the junior high school will eliminate some of this waste of public funds.

In view of the above facts we must conclude that the junior high school is practical in village and consolidated schools, because:

1. Better teachers can be secured for the seventh and eighth grade with little increased cost.
2. It bridges the gap between the elementary school and the high school.
3. It is the one institution wherein individual differences, interests, and capacities, may be studied and understood to the end that the graduates of our senior high schools may enter upon the work which will be most beneficial to them and to the state.

WHAT IS A REASONABLE PROGRAM OF ATHLETICS FOR SMALL HIGH SCHOOLS?

H. R. Townsend
Commissioner of Ohio High-School Athletic Association

The objective of all high-school athletics should be the physical, mental, and moral welfare of boys and girls. All athletics should function with this in view. Any program that does not have this in mind is not reasonable; any program that does not contribute to this end is a failure; any program that does not tend to make the high-school pupil a better future citizen, should be abolished. It is the duty of all school men to inform themselves, their teams, their schools, and their public, as to what a well-balanced athletic program should accomplish. The ends to be gained have been splendidly set forth in the 1925 report of the Michigan State Athletic Association most of which has appeared in the bulletins and *Ohio Schools*.

Many factors determine the kind of athletic program a high school should maintain, such as the size of the school and the

general attitude of the school and community toward athletics. In the first place, the small school cannot support so many teams nor so many branches of athletics as the larger school. It is unwise for a small school to attempt to put on the same program that a large school does. If the public does not attend the games, adequate financial means will not be available to carry on the program. Most of us believe that athletics should be financially self-supported. Boards of education do their part when they furnish athletic fields, provide gymnasiums, and pay coaches. In the smaller high schools, athletics present a fine opportunity to develop proper community feeling and spirit. A wholesome civic spirit has been aroused in many localities by the support and backing given the teams by citizens who, through athletics, became really interested in the schools. This is especially true of village and rural communities. The right kind of athletic program is entitled to the proper support of the best people in the community. It is easy enough to secure the interest of the other kind.

Athletic programs are sometimes limited by the difficulty of securing competent coaches. In spite of the large numbers turned out each year by the colleges, the supply of the right kind of coach is still limited. Great care should be taken in his selection, for he is one of the biggest factors in determining what pupils get out of athletics. All coaches, for obvious reasons, should be high-school teachers, but if this requisite were incorporated in the rules of the State Association, many of the smaller schools would have no athletics. Girls' athletics should be supervised by women, but unfortunately the supply of women coaches is inadequate. If we expect to get the most out of high-school athletics, more attention must be given to the selection of coaches.

High schools occasionally make the mistake of scheduling games with schools much larger than themselves. Sometimes this is due to an over-ambitious coach; sometimes the smaller school is flattered by an offer of this kind; and sometimes such contests are scheduled under the guise of practice games. Serious accidents, especially in football, may occur in such games, and the one-sided scores frequently discourage and demoralize the

small-school team. A decided tendency has developed throughout the state for schools to organize themselves into local athletic leagues. These organizations facilitate the making of schedules, encourage minor sports, and work together for the common good. If too much emphasis is not placed on the winning of championships, these leagues have a wholesome effect on our athletics.

Under our present system, too few boys and girls enjoy the advantages of high-school athletics. Those who need most physical development get least, because they are not naturally fitted to make the teams. On the other hand, boys well developed physically make up the personnel of the various teams throughout the year. To furnish some kind of athletics for the boy not physically fitted to make high-school teams as they are now constituted, is one of the biggest problems. Someone has aptly said "The cure for the evils of high-school athletics is more athletics." Athletics should be for the many and not for the few; athletics, for all who need the development as well as for those who do not; and athletics, for all boys who, while they cannot make the first team, enjoy the mere pleasure of playing. Every boy who wishes it should have opportunity to try out for some kind of team. If he is not good enough to make the regular team, he should have a chance to play against teams near his equal. If athletics are really justifiable, the more boys engaged in them the better. The athletic program of every high school will be expanded in the next ten years to take care of more pupils. To do this, more coaches will be employed and more facilities engaged. This fact presents a serious problem in these days of financial stringency. Intramural activities should be well organized in every school. Class teams from one high school should play class teams from other high schools. The financial means must come from football and basketball.

How extensive an athletic program should the small high school attempt to maintain? Conditions vary so much in different schools and in different parts of the state, that the question is rather difficult to answer. It is doubtful whether a high school with an enrollment of one hundred or less should attempt football. A school of this size ordinarily has forty-five boys enrolled.

Many small schools cannot afford football, as it is expensive to equip and maintain. On the other hand, with the right kind of weather conditions, it is a moneymaker in many localities. During the past five years it has grown so popular that it bids fair to supplant baseball as the great American game.

Ohio is a great high-school football state. Four hundred schools in this state supported teams the past season, while our neighboring state of Indiana had only eighty-seven. Of these four hundred schools, forty-five of them had fewer than forty-five boys enrolled. This means that one out of every nine schools having the sport, selected its team from forty-five boys or less. One school with only twenty-one boys had the championship team in the county where good football is played. An undefeated team from another section of the state had only sixty boys from which to draw. Several schools with more than one hundred boys have no team. In some localities there is a kind of football tradition and atmosphere which makes it easy to pick a team from a few boys. These boys know the fundamentals of the game before they reach high school. Sometimes a very small school will have a remarkable aggregation of athletes. Bellpoint with only fifteen boys won the Class B State Basketball Championship for two years in succession. It is quite possible for the small school to have good results with football if games are scheduled with schools of approximately the same enrollment. There is little danger from accidents and injuries if the teams are fairly evenly matched and the boys are well-coached and in good condition.

What shall be the fall athletic program for the small school with no football? Many schools play baseball in September and October. Some county leagues have regular fall baseball schedules. To encourage participation, a few counties conduct rather successful baseball tournaments in October. Hamilton County has soccer football, which takes the place of the American or Rugby game in most of the schools. Soccer is also the fall sport in a number of schools in the northern part of the state. It is a splendid running and kicking game, but it will never be popular until more competent coaches are available. Speedball,

a combination of football and basketball, is becoming popular in the high schools of the East. Several city high schools contemplate trying it out soon. Some of the larger schools play golf in both fall and spring.

Many high schools start basketball in October and November, but unless good judgment is used, the boys will become over-trained and stale before the season ends in March. Several counties in the state fix the maximum number of games to be played during the season at fifteen. Wisconsin permits twelve. The tendency throughout the country is to limit the number. Though some consideration must be shown the schools that have no other fall athletics, many Ohio high schools played too much basketball last season for the good of the boys. In the tournaments just ended many strong teams with splendid season records gave a very poor account of themselves. This poor showing was probably due to the fact that some teams had played from twenty to thirty games before the tournaments began. Because many of the boys went directly into basketball after a strenuous football season, the crisis in the tournament found them with no reserve with which to meet the emergency.

Basketball is growing by leaps and bounds to popular favor. This year more than one thousand high schools maintained teams in this state. The smaller high schools were greatly handicapped in not having proper places to play. Games were played in barns, garages, abandoned churches, warehouses, and even out-of-doors. Many communities are making serious efforts to provide suitable quarters for the teams. In the past, gymnasiums have not always been provided in high-school buildings. A new high school which does not make provision for an adequate gymnasium should not receive the approval of the state.

Girls' basketball received much attention throughout the state the past winter. Until recently girls' athletics occupied a very peculiar status, inasmuch as the girls were not members of the State Association. Many believe that girls' standard basketball rules should be mandatory because seven or more kinds of rules were used the past season in the state. Almost four hundred association members had girls' teams this year, but the opinion is gaining ground that tournaments put too much

physical and nervous strain on girls for their own welfare. A recent questionnaire showed that the schools belonging to the Association do not favor girls' district and state basketball tournaments.

The reasons for the regrettable tendency of baseball to disappear from high school are too numerous to mention. The game should be encouraged, as it is a splendid sport for boys. Some schools gave it up for financial reasons. In many places the public will not support it, as the average individual seems to prefer a professional team in action. If it is financially possible, however, every effort should be made to have a team. Statistics show that the game declined in 1922, 1923, and 1924, but rose in importance in 1925, and if the weather is favorable, even more Ohio high schools will play the game in 1926.

The average small school should maintain a track team. Equipment for the sport costs little, and it reaches a class of boys who ordinarily cannot make football, basketball, or baseball teams. To find a competent coach will be the chief difficulty, for in selecting an all-year coach the average superintendent pays little attention to the applicant's ability to handle track. The progressive states emphasize this sport nowadays. Nearly three hundred of our members report teams this year. Many of the counties hold county track meets for all of their schools. These meets are splendid, worthwhile community assets and should receive encouragement. The county superintendent who does not hold a meet of this kind is overlooking a real opportunity to bring his schools and his people together. At the State Track Meet held under the auspices of the Ohio State University May 21 and 22, a separate classification for an all-county team will be established. These composite county teams will be made up of the best material in the county, regardless of the schools. Boys may qualify in the county and district meets to represent their schools on this team. Already several counties have expressed a desire to enter such a team at the State Meet. Where county funds are not available, the expenses may be met by the schools with boys on the team. In the district meets the schools will be divided into Class A and Class B. There will be no classification for the all-county teams in the district meets this year.

HOW CAN THE SUPERINTENDENT HELP HIS TEACHERS BY SUPERVISION?

O. G. Brim
Ohio State University

One advantage claimed for the consolidated and village schools over those of the open country has been that of a resident educational leader who could, because of his greater training, wider experience, and thorough supervision, secure a better quality of teaching. In truth, these superintendents are not infrequently looked upon by county superintendents as assistants in supervision. As an actual fact, however, superintendents give little time to this work. Dr. Morrison, in a recent study, has shown that of the superintendent's four functions as administrator, clerk, teacher, and supervisor, the last receives the smallest amount of time. Because the superintendent's duties are such that he can spend relatively little time in classroom visiting, a more feasible method of stimulating and helping teachers to grow must be found.

In the brief time available I shall present one line of possible procedure. But since this suggestion implies a changed conception of the function and nature of supervision, a few words must be said on this point.

The first idea of supervision to be discarded is that of the supervisor as an inspector or police officer who visits classrooms to see that the teachers obey administrative orders, properly prepare their lessons, maintain discipline, and so on. In spite of the fact that such administrative supervision finds little justification and secures little, if any, educational progress, it is amazing how much supervision never rises above this level.

The conception of the function of the supervisor as a helping teacher is sound. His usual method of doing it is weak. The superintendent is supposed to visit classrooms and give the teacher help upon the many detailed practices of the classroom. He is supposed to instruct the teacher in the proper way to ask questions, the proper tone of voice, how to teach borrowing in subtraction, or phonics in reading, how to call and dismiss classes,

how to handle the unruly child, how to interest the indifferent one, and many other things. This kind of help has a place, but it should not be basic. It is not only time-consuming and nerve-racking to the supervisor, but it has other evil consequences. In the first place, it centers attention mainly on details. Supervisory effort is scattered. It is of the patchwork variety, a little here, a little there. It tends in almost every instance to take on the quality of faultfinding. Both teacher and supervisor become detail-minded and center attention on weak spots and defects. The teacher tends to become self-conscious and discouraged. Her attitude toward the supervisor and supervisory visits becomes one of dread, suspicion, and dislike, in spite of the superintendent's utmost tact.

In place of this I suggest that one seek to improve instruction by enlisting the teachers in a study of some advanced problem pertinent to the needs of the school and the interest of the teachers. Some research question in method for any subject, curriculum construction for a certain subject or grade, a problem of school organization or management, would serve. The psychological effect of such an approach is excellent. Attention centers upon some problem to be worked out. The topic is impersonal. Supervisor and teacher meet upon a common ground. Cooperation and good feeling replace the inferiority-superiority relationship. The problem is a stimulus. Each teacher can contribute her bit. The element of discovery acts as a challenge. Alert, interested, thinking, forward-looking teachers are secured. They become their own critics in the light of a larger educational vision. Such a program does not involve so much classroom visiting. It demands that the superintendent have ability to inspire, organize, and lead, but it does not require so much time nor so complete a mastery on his part of classroom technique; for, being a joint undertaking, he is free to call upon his teachers to contribute in the fields where they are particularly strong.

HOW SHALL EXTRA-CURRICULAR ACTIVITIES BE ADMINISTERED AND SUPERVISED?

H. M. Loudenback
Rosewood, Ohio

In the administration and supervision of extra-curricular activities, the Rosewood School has worked out the following list of purposes for such activities. These activities should:

1. Work for civil betterment and moral uplift and strive to fit students into life with perfect cooperation.
2. Develop leadership without slighting the training of those who do not become leaders.
3. Create interest in future vocational work, so that the sentimental and liberalizing values may be present when our students have reached that period where they must earn their way.
4. Furnish activities for those with superabundant energies.
5. Increase the mental and physical equipment of the student.
6. Give opportunity for all who wish to participate.

In direct administration and supervision, all activities are directly supervised by a responsible teacher in order to (1) give administrative encouragement and assistance; (2) determine whether the time and energy required are commensurate with results; (3) determine the amount of community interference in preparation; (4) furnish financial assistance from school funds when needed and justified; and (5) evaluate the activities.